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Articles

Long Arms and Chemical Arms: Extraterritoriality and the Draft Chemical Weapons Convention

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I. Introduction	2
II. The Control of Chemical Weapons	7
A. History of Chemical Weapons	7
B. The Control of Chemical Weapons	15
C. The Current Negotiations	21
D. The Difficulties of Chemical Weapons Arms Control	29
III. The Law of Extraterritoriality	35
A. Types of Jurisdiction	36
B. Bases of Jurisdiction to Prescribe	37
1. Territoriality	37
2. Nationality	37
3. Effects	38
4. Protective	39
5. Passive Personality	40
6. Universality	41
C. Bases of Jurisdiction to Enforce	41
D. Resolving Conflicts of Jurisdiction	43
1. Fruehauf	48
2. Soviet Natural Gas Pipeline	49
3. Libyan Arab Bank	50
4. Laker Airways	51
5. Litigation Discovery	52
IV. The Extraterritorial Reach of the Chemical Weapons Convention	54
A. The Reach of the Draft Convention	54
1. Prohibitions	55
2. Declarations	55

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3. Inspections	55
4. Noncircumvention	56
B. What Should Not Be Done	57
C. Similarities Between Arms Control and Other Expressions of Extraterritoriality	62
D. Differences Between Arms Control and Other Expressions of Extraterritoriality	65
E. What is to be Done?	70
1. Principles	70
2. Practices	72
V. Conclusion	77

I. Introduction

Chemical warfare has long been considered a particularly loathsome form of combat.¹ The specter of unprotected soldiers and nearby non-combatants incapacitated or killed within moments by invisible, silent, odorless vapors discharged by a far-distant enemy has terrified many,² and has also energized repeated international attempts to prohibit, or at least to moderate, these applications of deadly science.³

1. Winston Churchill captured the general public reaction by referring to chemical weaponry as "that hellish poison." Satchell & Blaug, *A Plague of "Hellish Poison,"* U.S. NEWS & WORLD REP., Oct. 26, 1987, at 30. Both supporters and opponents of United States production of chemical weapons acknowledge that the emotional content of the arguments, rather than intellectual considerations of military and political strategy, often dominates the debates. See Harden, *The Gassing of Washington*, THE WASHINGTONIAN, Feb. 1984, at 125.

2. See Address by Kenneth L. Adelman, Arms Control and International Order in a Disorderly World, Georgetown University Law Center (Oct. 17, 1984) (describing the wonder, fear, and ultimately the panic of soldiers confronted with chlorine gas on the battlefields in Belgium in World War I); see also Robinson, *The Rise of CB Weapons*, in 1 SIPRI, THE PROBLEM OF CHEMICAL AND BIOLOGICAL WEAPONS 231-67 (1971) (surveying popular attitudes toward chemical and biological warfare held by populations of United States and United Kingdom in period between World Wars I and II). Some have argued that chemical arms are actually more humane than other weapons, causing less human suffering than other forms of combat. Supporters of chemical weapons have attempted to rally public opinion to this perspective. See, e.g., J. ROTHSCHILD, TOMORROW'S WEAPONS: CHEMICAL AND BIOLOGICAL 1-10 (1964); Boserup, Robinson & Neild, *The Prevention of CBW* (App. 1), in 5 SIPRI, THE PROBLEM OF CHEMICAL AND BIOLOGICAL WEAPONS 124-36 (1971); R. CLARKE, THE SILENT WEAPONS 1, 203-06 (1968).

3. This article does not deal substantially with other important aspects of the overall question of chemical weapons, such as the domestic United States controversy regarding the advisability of producing new generations of chemical weapons prior to the conclusion of a satisfactory international convention. See LIBRARY OF CONGRESS, CONGRESSIONAL RESEARCH SERVICE, BINARY WEAPONS: IMPLICATIONS OF THE U.S. CHEMICAL STOCKPILE MODERNIZATION PROGRAM FOR CHEMICAL WEAPONS PROLIFERATION, REP. PREPARED FOR THE SUBCOMM. ON INTERNATIONAL SECURITY AND SCIENTIFIC AFFAIRS OF THE H.R. COMM. ON FOREIGN AFFAIRS, 98th Cong., 2d Sess. (1984) [hereinafter CONG. RESEARCH SERVICE]; Harden, *supra* note 1; Hamm, *Deterrence, Chemical Warfare, and Arms Control*, 29 ORBIS 119 (1985); Douglass & Lukens, *The Expanding Arena of Chemical-Biological Warfare*, 12 STRATEGIC REV. 71 (1984); Gold, *Land War #3: Chemical Warfare*, 2 J. DEF. & DIPL. 40 (1984); GAO, CHEMICAL WARFARE: MANY UNANSWERED QUESTIONS, COMPTROLLER GENERAL'S REP. TO THE H.R. COMM. ON FOREIGN AFFAIRS (1983) [hereinafter COMPTROLLER GENERAL'S REP.]. Neither does it address the problem of how to deal effectively with other countries that use CW or seem to be pursuing a CW capacity. See *Lawmakers Plan*

Long Arms and Chemical Arms

Recently, efforts to achieve effective international regulation of chemical weapons (CW) have accelerated, and there is now optimism that a major breakthrough may soon be attained.⁴ The Geneva-based Conference on Disarmament, a standing United Nations affiliate charged with responsibility for multilateral negotiation of arms control accords,⁵ has

Chemical Weapons Curb, Wash. Post, Jan. 25, 1989, at A9, col. 1; R. Cohen & R. Ranger, *Enforcing CW Limits: An International Chemical Weapons Authority* (Jan. 1989) (working paper); *Global Spread of Chemical and Biological Weapons: Assessing Challenges and Responses: Hearings Before the Comm. on Governmental Affairs of the Senate*, 101st Cong., 1st Sess. (1989) (mimeo version) [hereinafter *Hearings on Global Spread*] (statement of Sen. John McCain); UNITED STATES INSTITUTE OF PEACE, *IS CONTROL OF CHEMICAL WARFARE FEASIBLE?* (In Brief, No. 1) (1989); *Chemical and Biological Weapons Proliferation: Hearing Before the Subcomm. on International Finance and Monetary Policy of the Senate Comm. on Banking, Housing, and Urban Affairs*, 101st Cong., 1st Sess. (1989) (photocopied materials) [hereinafter *Hearings on Proliferation*].

4. See *United Nations Forum on Chemical Weapons*, 11 DISARMAMENT 83-85 (1988) (remarks of Yasushi Akashi, U.N. Under-Secretary-General for the Dep't for Disarmament Affairs) [hereinafter *United Nations Forum*]. It is hard to predict when a finished chemical weapons treaty could be ready for multilateral signature, and many difficult issues remain to be surmounted, but experts have suggested that with good faith negotiations, an agreement could be concluded in 1990 or 1991. See Adams, *Finding Verification Methods a Key Issue as Chemical Weapons Negotiations Resume*, DEF. NEWS, Feb. 13, 1989, at 28; *Chemical Arms Control After the Paris Conference* (transcript of press conference), 19 ARMS CONTROL TODAY 3, 5 (1989) [hereinafter *After the Paris Conference*]. But see 8 ARMS CONTROL REP. No. 5 704.B.384.20 (1989) (CD negotiations in 1989 have lost some of earlier momentum, not recording much progress recently); Bowman, *Chemical Weapons: A Summary of Proliferation and Arms Control Activities*, CONG. RESEARCH SERVICE (updated June 22, 1989) (1988 CD session was disappointing; as United States and Soviet Union moved closer to agreement, other states became more vocal with their concerns and objections); Dickson, *Hopes Recede for Early Ban on Chemical Arms*, 240 SCIENCE 22 (1988). Most recently, the Bush administration has signalled both that significant progress has been registered in the negotiations and that substantial problems remain to be worked out before a treaty is signed. *U.S. and Moscow Settle Key Issues on Chemical Arms*, N.Y. Times, July 18, 1989, at A1, col. 6; *Kremlin Accepts Early Inspection on Chemical Arms*, N.Y. Times, Aug. 3, 1989, at A1, col. 6; *Accord Near on Chemical Weapons*, Wash. Post, Sept. 12, 1989, at A29, col. 4.

5. The Conference on Disarmament (CD) is the current iteration of a long-standing sequence of multilateral negotiations concerned principally with arms control issues. The United Nations Disarmament Commission, with five members, was created in 1952; after several modifications, it still functions today. The Eighteen Nation Disarmament Committee was established in 1962; it was succeeded by the Conference of the Committee on Disarmament in 1969, the Committee on Disarmament in 1978, and the current CD in 1984. The CD and its predecessors have provided the vehicle through which significant arms control initiatives, such as the Biological Weapons Convention of 1972 and the Environmental Modification Convention of 1977, received multilateral approval. For a discussion of the history of multilateral negotiations, see UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY, *ARMS CONTROL AND DISARMAMENT AGREEMENTS: TEXTS AND HISTORIES OF NEGOTIATIONS* 7, 120, 190 (5th ed. 1982) [hereinafter *ARMS CONTROL AND DISARMAMENT AGREEMENTS*]; Trapp, *The Geneva Talks on Chemical Weapons and Attitudes Displayed There Towards the Chemical Industry*, in 1 THE CHEMICAL INDUSTRY AND THE PROJECTED CHEMICAL WEAPONS CONVENTION, PROCEEDINGS OF A SIPRI/PUGWASH CONFERENCE at 107 (SIPRI Chemical & Biological Warfare Stud., No. 4, 1986) [hereinafter 1 SIPRI/PUGWASH CONFERENCE PROCEEDINGS]; N. SIMS, *INTERNATIONAL ORGANIZATION FOR CHEMICAL DISARMAMENT 5-6* (SIPRI Chemical & Biological Warfare Stud., No. 8, 1987). More recently, the CD has considered items such as chemical weapons, militarization of outer space, nuclear weapons testing, and radiological weapons. Hardenbergh, *The Other Negotiations*, BULL. ATOM.

developed an impressive "rolling text"⁶ of a draft CW convention, reflecting substantial areas of consensus, as well as numerous issues still under active consideration by its forty national participants.⁷ These negotiations, led in large part by representatives of the United States⁸ and the Soviet Union,⁹ are now closer than ever before to creating a meaningful, reliable international regime prohibiting the scourge of chemical warfare.

Substantial problems, however, remain to be resolved in the current rolling text,¹⁰ and this article attempts to shed light upon one matter that has to date received too little attention from scholars and practitioners: the geographic scope of the treaty and the corresponding jurisdictional responsibilities of its future parties. This set of issues, sometimes referred

SCIENTISTS, Jan. 1986, at 45-47. The CD is not a United Nations subsidiary body, and it develops its own agenda and procedures. It does, however, receive funding and staff support from the United Nations, and the Secretary-General of the United Nations appoints the Secretary-General of the CD. 1988 U.N. DISARMAMENT Y.B. 10-11.

6. Report of the Ad Hoc Committee on Chemical Weapons to the Conference on Disarmament on its work during the period 17 January to 3 February 1989, CD/881, Feb. 3, 1989 [hereinafter Report of the Ad Hoc Committee]. The rolling text has been reported, annually or more often, as an appendix to the report of the CD's Ad Hoc Committee on Chemical Weapons. Versions of the negotiating text were contained in documents denominated as CD/416 (Aug. 22, 1983); CD/539 (Aug. 28, 1984); CD/636 (Aug. 23, 1985); CD/727 (Aug. 21, 1986); CD/734 (Jan. 29, 1987); CD/782 (Aug. 26, 1987); CD/795 (Feb. 2, 1988); CD/831 (Apr. 20, 1988); CD/874 (Sept. 12, 1988). See N. SIMS, *supra* note 5, at 43-48, 55.

7. The device of a periodically updated "rolling text" is frequently utilized in international negotiations to reflect the current status of the drafting. Areas where tentative agreement has already been reached are printed without any special designation, and brackets surround the points where the delegations still hold divergent views. The evolving draft treaty does not embody any binding commitment by the negotiators until it is formally signed, but it does represent the clearest (albeit tentative) state of the talks. See *United Nations Forum*, *supra* note 4, at 101 (remarks of Ambassador Rolf Ekeus, describing CD's use of bracketed rolling text); McNeill, *U.S.-U.S.S.R. Nuclear Arms Negotiations: The Process and the Lawyer*, 79 AM. J. INT'L L. 52, 58-59 (1985).

8. In the CD negotiations concerning chemical weapons, as in most other areas regarding important national security considerations, the two superpowers have played pivotal and sometimes leading roles, and agreement between them is a prerequisite for any multilateral consensus. Regarding United States participation in the CD discussions on chemical arms, see BUREAU OF PUBLIC AFF., U.S. DEP'T OF STATE, U.S. PROPOSES BANNING CHEMICAL WEAPONS, CURRENT POLICY No. 566 (Apr. 18, 1984).

9. The United States and the Soviet Union have engaged in direct bilateral discussions concerning chemical weapons, as well as in negotiations inside the CD, and both states have enlisted the participation of their allies and supporters. Regarding the Soviet Union perspective on the issues, see Soviet Embassy, Information Dep't, *Statement on a Ban on Chemical Weapons, News and Views from the USSR* (Mar. 26, 1987); Address by Soviet Foreign Minister Eduard Shevardnadze, International Conference on Chemical Weapons, Paris (Jan. 8, 1989), translated in Foreign Broadcast Information Service, Jan. 9, 1989, at 2-5.

10. See 8 ARMS CONTROL REP. No. 5 704.D.131-37 (1989) (outlining principal remaining issues in rolling text); Bowman, *Chemical Weapons: A Summary of Proliferation and Arms Control Activities*, CONG. RESEARCH SERVICE, updated Feb. 15, 1989; J. BOULDEN, TOWARDS A CHEMICAL WEAPONS CONVENTION: PROCEEDINGS OF A CONFERENCE ENTITLED "IMPLEMENTING A GLOBAL CHEMICAL WEAPONS CONVENTION" HELD IN OTTAWA, OCT. 7-9, 1987 (Aurora Papers 9, Jan. 1989).

to as concerns about "extraterritoriality,"¹¹ has not yet emerged as a salient matter for international attention, but it will soon pose thorny difficulties for the negotiators.

Jurisdictional scope is always a potential question in the negotiation of international agreements, and there is now a substantial and growing body of legal literature regarding other applications of the intensely controversial topic of extraterritoriality.¹² To date, the most difficult conflicts, at least those in the field of arms control, have remained peacefully latent.¹³ In the case of the nascent CW convention, however, the subject of extraterritoriality will have to assume far greater prominence, as the issue of the treaty's application to privately owned overseas facilities, as well as to governmental property, is raised in its most acute form. This negotiation, therefore, presents the first occasion to apply the emerging body of international law principles concerning extraterritoriality to a new and more challenging context, testing the soundness of the existing jurisprudence and extending or creating new standards to deal with a highly sensitive area of national security.

The thesis of this article is that the new CW treaty should be drafted with the intention of compelling its parties aggressively to push their extraterritorial jurisdiction to new reaches, forging well beyond the "reasonableness" standard of contemporary international law. The public policy goals of the ban on chemical weapons are so important to the peace and security of the international community that the traditional notions of sovereignty and comity ought to be balanced in new ways,

11. See RESTATEMENT (THIRD) OF THE FOREIGN RELATIONS LAW OF THE UNITED STATES §§ 401-442 (1987) [hereinafter RESTATEMENT (THIRD)].

12. See D. LANGE & G. BORN, THE EXTRATERRITORIAL APPLICATION OF NATIONAL LAWS (International Chamber of Commerce, 1987); B. CARTER, INTERNATIONAL ECONOMIC SANCTIONS: IMPROVING THE HAPHAZARD U.S. LEGAL REGIME (1988); Maier, *Extraterritorial Jurisdiction at a Crossroads: An Intersection Between Public and Private International Law*, 76 AM. J. INT'L L. 280 (1982) [hereinafter Maier, *Extraterritorial Jurisdiction at a Crossroads*]; Marcuss & Richard, *Extraterritorial Jurisdiction in United States Trade Law: The Need for a Consistent Theory*, 20 COLUM. J. TRANSNAT'L L. 439 (1981); D. ROSENTHAL & W. KNIGHTON, NATIONAL LAWS AND INTERNATIONAL COMMERCE: THE PROBLEM OF EXTRATERRITORIALITY (Chatham House Paper No. 17, 1982); A. LOWE, EXTRATERRITORIAL JURISDICTION (1983); see also Feinberg, *Economic Coercion and Economic Sanctions: The Expansion of United States Extraterritorial Jurisdiction*, 30 AM. U.L. REV. 323 (1981) (legislative proposals to reform United States law of extraterritoriality).

13. Many other important arms control agreements could at least implicitly raise questions of extraterritoriality, but no controversies have yet surfaced regarding this issue. The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, for example, requires each party to abstain from conducting certain nuclear explosions "at any place under its jurisdiction or control," but does not define the precise reach of that phrase. The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, Aug. 5, 1963, art. 1, 14 U.S.T. 1313, T.I.A.S. No. 5433, 480 U.N.T.S. 43, 45 [hereinafter Limited Test Ban Treaty].

stretching the assertion of national jurisdiction, for the purpose of enhancing the comprehensiveness of the treaty's geographic scope. Only by obligating its parties to extend themselves and their jurisdictional reach can the CW treaty attain its vital objectives.

The article is organized into the following sections. After this Introduction (Part I), Part II presents the modern problem of chemical weapons, describing the history of the use of CW, the history of previous international efforts to regulate those uses, and the status of the current negotiations. Part II also outlines the structure of the private chemical industry in the United States and elsewhere, suggesting how the maintenance of chemical operations in foreign states will inevitably generate questions of extraterritoriality, and explaining how the problem of effective regulation of chemical weapons will soon collide with the imperatives of commercial operations.

Part III then surveys the international law of extraterritoriality, summarizing the recognized principles of jurisdiction to prescribe and to enforce rules applicable to a particular factual situation. It also explains the paltry existing law regarding the resolution of conflicts of jurisdiction, and describes its application in a few celebrated, controversial cases of international competition.¹⁴

Part IV juxtaposes the results of the prior two sections, applying the too-thin principles of international law to the too-complex factual situation of CW. It examines the conflicts inherent in extending the principles of extraterritoriality to the case of chemical weapons, and suggests devices that may enable the negotiators, and their political superiors who will ultimately have to implement the treaty, to deal productively with the conflicts. In particular, Part IV examines the problems inherent in the global operations of multinational chemical companies, where activities relevant to the central purposes of a CW ban may be undertaken by nationals of state X (which does become a party to the future treaty, and wants to encourage its worldwide implementation) operating a facility inside state Y (which remains a holdout, not accepting the obligations of the treaty regime, and resists application of the treaty's provisions inside its own sovereign territory).

Finally, Part V offers some concluding observations and comments about the role of chemical weapons arms control in the larger context of

14. Clashes over extraterritorial applications of United States law have generated a great deal of international friction, creating "perhaps the worst post-war strain between the United States and its European allies." Moyer & Mabry, *Export Controls as Instruments of Foreign Policy: The History, Legal Issues, and Policy Lessons of Three Recent Cases*, 15 LAW & POL'Y INT'L BUS. 1, 155 (1983).

Long Arms and Chemical Arms

national and international security, and about the more generally applicable lessons of this experience. It looks beyond the particular case study at hand to consider the CW negotiations as a possible harbinger of the nettlesome future in other areas of national security policy.

II. The Control of Chemical Weapons

A. *History of Chemical Weapons*

The use of chemical weapons¹⁵ is among the most ancient organized applications of violence in war. Indian, Chinese, and European military treatises as far back as the nineteenth century B.C. record the use of poisonous (or supposedly poisonous) chemicals, smoke and potions to gain a physical or psychological advantage in battle.¹⁶ The primitive applications of CW were gradually refined, as technology permitted, and by

15. For some purposes, it has been useful to differentiate chemical weapons from biological weapons (BW), although the distinction remains elusive at the margins. Chemical weapons generally utilize agents that are produced by chemical reactions and cause injury through direct chemical processes; biological weapons rely upon living organisms which cause illness by reproducing inside the victim's body; toxins are a class of agents produced by living organisms and sharing some characteristics of both CW and BW. ARMS CONTROL AND DISARMAMENT AGREEMENTS, *supra* note 5, at 121; Finder, *Biological Warfare, Genetic Engineering, and the Treaty That Failed*, WASH. Q., Spring 1986, at 5-14 (1986). Biological weapons have proven less adaptable to military applications than CW, being less predictable or controllable. As described below, the international arms control efforts have sometimes dealt with CW and BW together, and have sometimes separated the two issues. This article will be principally concerned with CW.

Chemical weapons themselves may be divided into two distinct types, according to their intended effects. "Harassing agents" are designed to produce a temporary incapacity; they include lachrymators (tear gases) and sternutators (sneeze or vomit gases). "Casualty agents" are designed to cause longer-lasting injuries or death; they include choking gases (such as chlorine and phosgene), blistering agents (such as mustard gas), blood gases (such as hydrogen cyanide) and nerve gases (such as soman, sarin or tabun). JANE'S NBC PROTECTION EQUIPMENT 1989-90 (T. Gander ed. 1989); A. THOMAS, EFFECTS OF CHEMICAL WARFARE: A SELECTIVE REVIEW AND BIBLIOGRAPHY OF BRITISH STATE PAPERS 5-6 (SIPRI Chemical & Biological Warfare Stud., No. 1, 1985); Meselson & Robinson, *Chemical Warfare and Chemical Disarmament*, 242 SCI. AM. 38, 38-40 (1980); McGeorge, *Chemical Addiction*, DEF. & FOREIGN AFF., Apr. 1989, at 16, 19; Wolfe, *Chemical and Biological Warfare: Medical Effects and Consequences*, 28 MCGILL L.J. 732 (1983); J. COOKSON & J. NOTTINGHAM, A SURVEY OF CHEMICAL AND BIOLOGICAL WARFARE 181-258 (1969).

In addition, CW differ in delivery systems. Some are contained, in liquid form, inside pressurized cylinders which are used to create a cloud of vapors. Some are delivered by land mines, bombs or shells. Some may be sprayed by aircraft. A. THOMAS, *supra*, at 5; H. STRINGER, DETERRING CHEMICAL WARFARE: U.S. POLICY OPTIONS FOR THE 1990's 3-11 (Foreign Policy Report, Institute for Foreign Policy Analysis, Apr. 1986); E. SPIERS, CHEMICAL WARFARE 2-12 (1986).

16. See Robinson, *supra* note 2, at 125 n.1; Wolfe, *supra* note 15, at 734-35; 8 ARMS CONTROL REPORTER No. 5, at 12; S. HERSH, CHEMICAL AND BIOLOGICAL WARFARE: AMERICA'S HIDDEN ARSENAL 3 (1968); J. ROTHSCHILD, *supra* note 2, at 12; E. SPIERS, *supra* note 15, at 13. While some of the legendary reports concerning the efficacy of early chemical weapons are probably exaggerated or even mythic, there is a substantial and diverse corpus of citations, leaving little doubt that ancient military forces at least attempted to apply chemical arms to their advantage.

the middle of the 1800s, the question of chemical weaponry had attained a substantial public salience, with numerous schemes being considered to employ gas and smoke wherever conditions were thought favorable, including during the American Civil War.¹⁷

It was not until World War I, however, that the marriage of chemistry and military science brought into being the full measure of chemical horror.¹⁸ Seven different countries used a total of 113,000 tons of CW between 1915 and 1918, on virtually all fronts of the war, producing some 1.3 million casualties, including almost 100,000 deaths.¹⁹ Controversy has raged concerning which country originally introduced CW into the trenches, but it is clear that Germany was the first to make major use of lethal chemicals, on the battlefield at Ypres, and that the French and British quickly retaliated in kind.²⁰ There is also a lingering uncertainty about the overall effectiveness of CW during the war: the consensus may be that CW was influential in several engagements but not itself decisive; it made prosecution of the war more difficult and painful for both sides, but the reciprocal use (especially against a reasonably well-equipped and well-trained adversary) afforded neither a major advantage.²¹

17. Robinson, *supra* note 2, at 126 n.1; E. SPIERS, *supra* note 15, at 13; J. ROTHSCHILD, *supra* note 2, at 13; Gutman, *Chemical and Biological Weapons: The Silent Killers*, 1 NBC DEF. & TECH. INT'L 26 (1986) (use of CW by Union General Patrick Gilmore during the American Civil War); see also Note, *Chemical and Biological Weapons — Recent Legal Developments May Prove to Be a Turning Point in Arms Control*, 12 BROOKLYN J. INT'L L. 95, 95 n.1 (1986) (common use of crude biological warfare by both sides during Civil War).

18. F. BROWN, *CHEMICAL WARFARE: A STUDY IN RESTRAINTS* 3 (1968); S. SEAGRAVE, *YELLOW RAIN: A JOURNEY THROUGH THE TERROR OF CHEMICAL WARFARE* 37-61 (1981); R. CLARKE, *supra* note 2, at 34-40; E. SPIERS, *supra* note 15, at 13-33.

19. Robinson, *supra* note 2, at 126-29, tables 2.1 and 2.5. CW accounted for less than 5% of the total casualties during World War I. *Id.* at 128, table 2.3.

20. *Id.* at 129-35; A. THOMAS, *supra* note 15, at 9-10. The early use of chemicals in World War I was seen by both sides as largely experimental, and the inadequacy of the chemical agents and the cumbersomeness of the delivery systems prevented them from being very effective. Improved weaponry soon drove both sides to higher levels of production, and CW were seen as having a special place on the battlefield, possessing capabilities (if weather and terrain conditions were favorable) that other ordnance could not rival. Robinson, *supra* note 2, at 134-41.

21. Robinson, *supra* note 2, at 140-41; S. HERSH, *supra* note 16, at 6. It is difficult to parse the special impact of chemical weapons in the fighting, because so many other novel weapons, including tanks, aircraft and submarines also made their debuts during World War I. It is clear, however, that by the end of the war, CW was seen by most participants as a standard element in a nation's arsenal, one to be taken seriously and likely to be used again. Robinson, *supra* note 2, at 140-41; see also Hoeber, *The Chemistry of Defeat: Asymmetries in U.S. and Soviet Chemical Warfare Postures*, INST. FOR FOREIGN POL'Y ANALYSIS, SPECIAL REP. 28 (1981) (chemical weapons used during World War I were judged to be four to eight times as effective as conventional explosive weapons).

Both of today's superpowers were heavily affected by CW during World War I. The Soviet Union suffered more CW casualties than any other state, totalling approximately 500,000 injuries, including 50,000 deaths. DEFENSE INTELLIGENCE AGENCY, U.S. DEP'T OF DEFENSE, *SOVIET CHEMICAL WEAPONS THREAT* 2 (1985) [hereinafter *SOVIET CHEMICAL WEAPONS*].

Long Arms and Chemical Arms

Just as dramatic as the widespread use of chemical weapons during World War I, but certainly far less predictable, was the general pattern of nonuse during World War II. Prior to 1939,²² Japan had used CW against China, and Italy had used CW against Ethiopia. Moreover, the Allies and Axis alike appeared well-armed with chemical munitions, and civilian anti-gas training programs were common.²³ Nevertheless, fear of escalatory retaliation, coupled with the military's institutional reluctance to accept CW as a reliable weapons system, precluded its use, even while the production of lethal agents generated huge, idle stockpiles on all sides.²⁴

Since World War II, there have been occasional instances or allegations of chemical weapons use around the world, usually with controversial, ambiguous evidence to substantiate or refute the claims.²⁵ Some of

THREAT]; Hoerber, *supra*, at 36. The United States incurred far fewer CW losses, but they were a relatively high percentage of overall American casualties, totalling 27 per cent of all United States deaths and injuries during the war. Thatcher, *Poison on the Wind: Part 2: Superpower Arsenals*, Christian Sci. Monitor, Dec. 14, 1988, at B1, col. 4, B4, col. 1 [hereinafter Thatcher, *Superpower Arsenals*].

22. There were many other occasions between the world wars when the use of chemical weapons was seriously considered, such as in Egypt, India and the Soviet Union. See A. THOMAS, *supra* note 15, at 33.

23. McFarland, *Preparing for What Never Came: Chemical and Biological Warfare in World War II*, DEF. ANALYSIS, BRASSEY'S DEF. PUBLISHERS 107-21 (1985); Robinson, *supra* note 2, at 294; A. THOMAS, *supra* note 15, at 54-59; see also Tanaka, *Poison Gas: The Story Japan Would Like to Forget*, BULL. ATOM. SCIENTISTS, Oct. 1988, at 10-19. At the outbreak of World War II, each of the belligerents suspected its enemies of a readiness and willingness to use CW promptly and massively, but each of them actually had only a limited capacity to do so, due to inadequate stockpiles of chemical agents and delivery systems. Robinson, *supra* note 2, at 306; S. SEAGRAVE, *supra* note 18, at 62-84; E. SPIERS, *supra* note 15, at 62-88.

24. McFarland, *supra* note 23; F. BROWN, *CHEMICAL WARFARE: A STUDY IN RESTRAINTS* (1968); Robinson, *supra* note 2, at 304, table 5.1, at 333-35. Military and political leaders in several nations, including the United States, considered the possible desirability of using CW in a variety of contexts, such as to blunt a blitzkrieg, to thwart a Nazi invasion of Britain, or to facilitate the island-hopping process, but none of these inquiries overcame the powerful disincentives, and half a million tons of available CW went unused by the belligerents. Hitler's own experience of having been a victim of a gas attack during World War I was apparently also a factor contributing to Germany's decision not to use CW during World War II. Robinson, *supra* note 2, at 328-33; A. THOMAS, *supra* note 15, at 67-72; Storella, *Poisoning Arms Control: The Soviet Union and Chemical/Biological Weapons*, INST. FOR FOREIGN POL'Y ANALYSIS, SPECIAL REP. 9 (1984); Burck, *Recent Progress Toward Chemical Disarmament*, 40 F.A.S. PUB. INTEREST REP. No. 10, Dec. 1987; S. SEAGRAVE, *supra* note 18, at 62-84; S. MURPHY, A. HAY & S. ROSE, *NO FIRE, NO THUNDER: THE THREAT OF CHEMICAL AND BIOLOGICAL WEAPONS* 12 (1984).

25. Unconfirmed reports alleged the use of chemical weapons in the following contexts, *inter alia*: Chinese Civil War, 1945-49; Israel-Egypt, 1948; Greece, 1949; Algeria, 1957; Guinea-Bissau, 1968; Angola, 1970; and Rhodesia, 1970. Robinson, *supra* note 2, at 157-212; Robinson, *Information Processes and the Projected Chemical Weapons Convention*, in *THE PROJECTED CHEMICAL WEAPONS CONVENTION, PROCEEDINGS OF THE CONFERENCE CONVENED BY THE WORKING PARTY ON CBW 2-3* (1988) [hereinafter Robinson, *Information Processes*].

One of the difficulties in substantiating claims of CW use has been the frequent frustration of timely access for objective inspectors or observers into the region where the suspicious activity

these charges now seem to be bogus (such as the allegation that the United States used CW during the Korean War²⁶); some are quite serious, indeed (such as the reports of CW use during the Yemeni Civil War of 1963-67²⁷); and some seem to turn on legal technicalities (such as whether the use by the United States of chemical defoliants in the Vietnam war properly fits the criteria of "chemical weapons").²⁸

Recently, issues of chemical weapons production and use seem to have accelerated, with highly publicized accusations that the Soviet Union and its surrogates employed "yellow rain" chemical weapons in southeast and southwest Asia,²⁹ with the well-documented use of lethal chemicals

occurred. See *Poison Gas Attacks: Why a Diagnosis Is So Difficult*, N.Y. Times, Sept. 18, 1988, at 14, col. 3; Flowerree, *Chemical Weapons: A Case Study in Verification*, 13 ARMS CONTROL TODAY, Apr. 1983, at 2 [hereinafter Flowerree, *Chemical Weapons*] (difficulties in securing prompt access to areas of Southeast Asia frustrated 1982 United Nations inquiry into allegations of CW use there); SENATE COMM. ON FOREIGN RELATIONS, CHEMICAL WEAPONS USE IN KURDISTAN: IRAQ'S FINAL OFFENSIVE, 100th Cong., 2d Sess. 29-30 S. Prt. 100-148 (Oct. 1988) (difficulty in obtaining physical evidence of use of chemical weapons by Iraq in Kurdistan) [hereinafter CHEMICAL WEAPONS USE IN KURDISTAN]; see also Note, *Establishing Violations of International Law: "Yellow Rain" and the Treaties Regulating Chemical and Biological Warfare*, 35 STAN. L. REV. 259 (1983) (proposing creation of international body to investigate allegations of CW use).

Chemical weapons agents vary in their "persistence," meaning that although some will remain active (and therefore detectable) for an extended period of time, others are designed to degrade naturally relatively quickly (e.g., depending upon the amount used, the weather, the topography), leaving few unambiguous traces for subsequent monitors to detect. See R. TRAPP, THE DETOXIFICATION AND NATURAL DEGRADATION OF CHEMICAL WARFARE AGENTS (SIPRI Chemical & Biological Warfare Stud., No. 3, 1985); E. SPIERS, *supra* note 15, at 213; Thatcher, *Poison on the Wind: Part 4: Putting the Genie Back in the Bottle*, Christian Sci. Monitor, Dec. 16, 1988, at B1, col. 3.

26. Robinson, *supra* note 2, at 158. The United States denied that it used any chemical weapons in Korea. Although the possible application of CW was considered at that time, chemicals were not well assimilated into the American military arsenal as useable weapons. The United States may also have been deterred by fear of Soviet retaliation. *Id.* at 158; S. SEAGRAVE, *supra* note 18, at 94; J. COOKSON & J. NOTTINGHAM, *supra* note 15, at 57-63. American proposals for an impartial international investigation of the allegations were rejected by its accusers. S. MURPHY, A. HAY & S. ROSE, *supra* note 24, at 15.

27. There were many reports that Egyptian troops used chemical weapons during their intervention in the Yemeni Civil War, with at least 40 separate incidents reported in the press. Egypt denied all allegations, and most were unconfirmed, but at least three events were studied sufficiently by outside observers, and most experts have concluded that some CW were used. Robinson, *supra* note 2, at 159-61, 336-41; S. SEAGRAVE, *supra* note 18, at 112-34; J. COOKSON & J. NOTTINGHAM, *supra* note 15, at 6-14, 287-91.

28. See *infra* text accompanying note 62. The United States and South Vietnam confirmed their use of herbicides and riot-control agents in the war, but contended that these applications were lawful. They also denied any use of lethal chemicals. North Vietnam neither confirmed nor denied accusations of its use of CW. Robinson, *supra* note 2, at 162-210; Burck, *supra* note 24, at 8; S. SEAGRAVE, *supra* note 18, at 8; J. COOKSON & J. NOTTINGHAM, *supra* note 15, at 14-54; S. HERSH, *supra* note 16, at 144-87.

29. The United States government has alleged that the Soviet Union used chemical weapons in numerous attacks against Afghan rebels from 1979 through at least 1982, that Vietnamese and Lao troops used CW against H'Mong resistance in Laos, and that Vietnam also used CW in Kampuchea. BUREAU OF PUBLIC AFF., U.S. DEP'T OF STATE, CHEMICAL WEAPONS USE IN SOUTHEAST ASIA AND AFGHANISTAN, CURRENT POL'Y NO. 553; U.S.

Long Arms and Chemical Arms

during the Iran-Iraq War,³⁰ and with the disclosure that Libya is pursuing an indigenous capacity for manufacturing its own chemical weapons.³¹ Other disquieting reports, too, have surfaced in different locales.³²

Today, both the United States and the Soviet Union retain large stockpiles of various sorts of chemical weapons, and formerly classified information regarding the size, composition and location of the respective CW arsenals has begun to be released.³³ On the United States side, the overall amount of CW is estimated as roughly 30,000 tons of chemical

DEP'T OF STATE, SPECIAL REP. NO. 98, CHEMICAL WARFARE IN SOUTHEAST ASIA AND AFGHANISTAN, REP. TO THE CONGRESS FROM SECRETARY OF STATE ALEXANDER M. HAIG, JR., Mar. 22, 1982; CHEMICAL WARFARE IN SOUTHEAST ASIA AND AFGHANISTAN: AN UPDATE, REPORT FROM THE SECRETARY OF STATE, Nov. 1982; S. SEAGRAVE, *supra* note 18; Robinson, Guillemín & Meselson, *Yellow Rain: The Story Collapses*, 68 FOREIGN POL'Y 100 (1987). At least in the case of alleged uses in Southeast Asia, other independent analysts have disputed the validity of the claims, finding little credible evidence to substantiate the anecdotal reports. Harris, *Sverdlovsk and Yellow Rain: Two Cases of Soviet Noncompliance?*, 11 INT'L SECURITY 41, 90-92 (1987) [hereinafter Harris, *Sverdlovsk*]; J. ROBINSON, CHEMICAL AND BIOLOGICAL WARFARE DEVELOPMENTS: 1985 11-13 (SIPRI Chemical & Biological Warfare Stud., No. 6, 1986) [hereinafter J. ROBINSON, DEVELOPMENTS: 1985]; Ziegler, *Yellow Rain: An Analysis That Went Awry?*, 2 INTELLIGENCE & COUNTERINTELLIGENCE 91 (1988). An inquiry authorized by the United Nations in 1982 was inconclusive. Flowerree, *Chemical Weapons*, *supra* note 25, at 2.

30. Dunn, *The Chemical War: Journey to Iran*, 1 NBC DEF. & TECH. INT'L 28 (1986); Segal, *The Iran-Iraq War: A Military Analysis*, 66 FOREIGN AFF. 946, 955-6 (1988). Both countries used CW during the Gulf War, with Iraq resorting to CW sooner and on a larger scale than Iran. J. ROBINSON, DEVELOPMENTS: 1985, *supra* note 29, at 6-11; Smolowe, *Return of the Silent Killer*, TIME, Aug. 22, 1988, at 46. CW may have been responsible for as many as 50,000 Iranian casualties, becoming increasingly important to the outcome of the war. Cordesman, *Creating Weapons of Mass Destruction*, ARMED FORCES J. INT'L, Feb. 1989, at 54.

31. See *US Case Against Libyan Plant Gains Support*, Christian Sci. Monitor, Jan. 13, 1989, at 1, col. 4.

32. See J. ROBINSON, DEVELOPMENTS: 1985, *supra* note 29, at 6-13 (collecting allegations of use of CW during 1985 in eight different conflicts); Harris, *Chemical Weapons Proliferation in the Developing World*, RUSI & BRASSEY'S DEF. Y.B. 67-88 (1989); McGeorge, *Chemical Addiction*, DEF. & FOREIGN AFF., Apr. 1989, at 16, 19 (listing probable CW states); *Defense and Disarmament Review*, *Chemical/Biological Warfare*, STRATEGIC DIG. 1490-91 (1988) (alleging use of Soviet-supplied nerve gas in Angola in 1988).

The Soviet Union used chemicals — probably a riot control gas that achieved lethal effect when used improperly — to break up a popular demonstration in the Georgian capital of Tbilisi in April of 1989. Norman, *U.S. Physicians Probe Deaths in Soviet Georgia*, SCIENCE, June 9, 1989, at 1133; *Soviet Expert Names Gas Used on Georgians*, Wash. Post, May 1, 1989, at A22, col. 1. Much more horrific, Iraq used lethal chemical weapons on a vast scale in 1988 against its own Kurdish minority population. *Poison Gas Traces Are Found in Iraq*, N.Y. Times, Dec. 4, 1988, at 25, col. 1; CHEMICAL WEAPONS USE IN KURDISTAN, *supra* note 25. Although internal (as opposed to international) use of chemical weapons is generally beyond the scope of this article, these incidents further support the importance of renewed efforts to deal with the general problem of CW.

33. See Robinson, *Review: World CW Armament, Part I: The United States*, CHEMICAL WEAPONS CONVENTION BULL., Autumn, 1988, at 12; CENTER FOR DEFENSE INFORMATION, 18 DEF. MONITOR NO. 3, 1-5 (1989) (detailing current types of United States CW, gleaned from various government information releases). The United States spent \$1.07 billion on chemical weapons programs in 1988 (up from \$597 million in 1983), including \$777 million for

agents,³⁴ although there is a substantial controversy regarding the continuing usefulness of some of the oldest munitions.³⁵ In 1987, the United States resumed CW production after an eighteen-year hiatus,³⁶ manufac-

CW defenses, \$98 million to produce new weapons, and \$198 million to destroy old weapons. Thatcher, *Superpower Arsenals*, *supra* note 21, at B3, col.4.

Of particular interest here is the question of chemical weapons housed outside the national territory of the state that owns them. The United States now holds roughly ninety-eight percent of its stockpiles of lethal CW inside American territory. The rest (which accounts for perhaps one-eighth of the stockpile that the Department of Defense considers militarily useful) is held in West Germany. It includes 435 tons of GB and VX nerve gases loaded into 155-mm and 203-mm howitzer shells. Robinson, *An Historical Context for European Chemical-Weapon-Free Zone Concepts, with an Account of Current European Chemical-Warfare Forces*, in SIPRI CHEMICAL & BIOLOGICAL WARFARE STUD. NO. 7, at 1, 13 (1987) [hereinafter Robinson, *Historical Context*]; see also S. MURPHY, A. HAY & S. ROSE, *supra* note 24, at 14 (reporting that as much as 10 per cent of United States stockpile is held overseas, in Germany and on Johnston Island in Pacific Ocean). The United States has agreed to withdraw all these chemical weapons from Germany by 1992, and to accelerate the withdrawal if possible. Trapp, *A European Zone Free of Chemical Weapons: A Regional Precursor for the World-Wide Ban on Chemical Weapons*, in SIPRI CHEMICAL & BIOLOGICAL WARFARE STUD. NO. 3, at 31, 33 (1987); Address by Secretary of State James A. Baker III to Vienna Ministerial Meeting on New Horizons in Europe (Mar. 6, 1989), *reprinted as* U.S. DEP'T OF STATE, CURRENT POLICY NO. 1154.

There is a wide range of speculation regarding the amount of Soviet CW stored outside the Soviet Union; some authorities conclude that the U.S.S.R. has maintained substantial "forward based" CW depots, while others believe that little or no lethal material is stored outside Soviet national territory. Robinson, *Historical Context*, *supra*, at 13-14; SOVIET CHEMICAL WEAPONS THREAT, *supra* note 21, at 17; Robinson, *NATO Chemical Weapons Policy and Posture*, ADIU OCCASIONAL PAPER NO. 4, at 21 (1986) [hereinafter Robinson, *NATO Chemical Weapons Policy*].

34. Smolowe, *supra* note 30, at 49. About two-thirds of the United States inventory of CW agents is stored in bulk drums; the rest is weaponized, including 3 million artillery rounds and nearly 500,000 rockets. These agents are scheduled for destruction by 1997, and they are to be replaced by new binary chemical weapons, unless a comprehensive CW treaty intervenes. *Id.*; 50 U.S.C. § 1521 (1989). For a description of binary weapons, see *infra* note 37.

35. The Department of Defense now considers roughly 90% of the United States CW agent stockpile to be obsolete and practically useless. *Pentagon Cites Safety Concern in Campaign for Nerve Gas Funds*, N.Y. Times, Oct. 29, 1985, at A19, col. 1; see Thatcher, *Superpower Arsenals*, *supra* note 21, at B4; Hamm, *supra* note 3, at 142-46; HOUSE COMM. ON FOREIGN AFFAIRS AND SENATE COMM. ON FOREIGN RELATIONS, 100TH CONG. 2D SESS., FISCAL YEAR 1989 ARMS CONTROL IMPACT STATEMENTS 120-21 (Joint Comm. Print 1988) [hereinafter ARMS CONTROL IMPACT STATEMENTS]. In addition, several leaks have been discovered in the existing United States CW storage facilities. *Pentagon Cites Safety Concern in Campaign for Nerve Gas Funds*, *supra*; *Superpower Arsenals*, *supra* note 21, at B4, col. 4; 135 CONG. REC. H4386 (daily edition July 27, 1989) (statement of Rep. Nielson) (reports of at least one leak per week in Utah). *But see* REPORT OF THE CHEMICAL WARFARE REVIEW COMMISSION (STOESSEL COMMISSION) 19-20 (June 1985) [hereinafter REPORT OF THE STOESSEL COMMISSION] (calculations about CW obsolescence are "unduly pessimistic"; rumors of leaks are "exaggerated and inaccurate"); 135 CONG. REC., *supra*, at H4385-86 (statement of Rep. Porter) (stockpile contains only six thousandths of one per cent leakers).

36. President Nixon had halted all United States production of chemical agents in 1969. Production was resumed at the Pine Bluff Arsenal in Arkansas in December, 1987. *Army Begins Producing Chemical Weapons, Ending 18-Year Moratorium*, Wash. Post, Dec. 17, 1987, at A36, col. 1; Morrison, *When the Chemistry's Not Right*, 20 NAT'L J. 1417 (1988).

Long Arms and Chemical Arms

turing a new generation of "binary" weapons,³⁷ although the political controversies — within the NATO alliance, as well as inside the United States — have not abated.³⁸

The Soviet Union is generally believed to maintain an even larger and more diverse CW stockpile than the United States,³⁹ and the U.S.S.R.

37. A binary weapon is one in which two relatively non-toxic chemicals are produced and stored separately, and placed into separate canisters. The canisters are inserted into a bomb or missile only at the battlefield immediately prior to use, and the walls separating the two chemicals are ruptured only when the shell is in flight toward its target. When the two agents mix, a lethal nerve gas is produced. Binary munitions are therefore said to be safer to produce, store and use than traditional "unitary" CW, which are extremely hazardous at all times. The United States has been the first nation to develop modern binary weapons; among the new binary arms scheduled for production are a short-range 155 mm artillery shell, a longer-range Multiple Launch Rocket System, and a "Bigeye" bomb. REPORT OF THE STOESEL COMMISSION, *supra* note 35, at 32-36; Thatcher, *Superpower Arsenals*, *supra* note 21, at B4, col. 5, B5, col. 3; SUBCOMM. ON ARMS CONTROL, INTERNATIONAL SECURITY AND SCIENCE OF THE HOUSE COMM. ON FOREIGN AFF., BINARY CHEMICAL WEAPONS: SELECTED DOCUMENTS, 99th Cong., 2d Sess. (1986); see also *Chemical Warfare Policy: Beyond the Binary Production Decision*, 9 CENTER FOR STRATEGIC AND INT'L STUD. SIGNIFICANT ISSUES SERIES No. 3 (B. Roberts ed. 1987) (providing commentaries on U.S. policy concerning binary weapons) [hereinafter *Chemical Warfare Policy*].

38. See Robinson, *NATO Chemical Weapons Policy*, *supra* note 33; Morrison, *supra* note 36, at 1417; Weickhardt & Finberg, *New Push for Chemical Weapons*, BULL. ATOM. SCIEN-TISTS 26 (Nov. 1986); J. ROBINSON, DEVELOPMENTS: 1985, *supra* note 29, at 14 (reviewing debates in 1985 regarding resumption of chemical weapons production); *Foreign Policy and Arms Control Implications of Chemical Weapons: Hearings Before the Subcomm. on International Security and Scientific Affairs and on Asian and Pacific Affairs of the House Comm. on Foreign Affairs*, 97th Cong., 2d Sess. 176 (March 30 and July 13, 1982) (statement of Charles C. Flowerree) [hereinafter *Hearings on Foreign Policy Implications*] (noting political problems posed for relations between United States and NATO governments by United States binary program).

39. Hoeber, *supra* note 21; Robinson, *Review: World CW Armament, Part II: The Soviet Union*, CHEMICAL WEAPONS CONVENTION BULL. No. 4, at 15-22 (1989); U.S. DEP'T OF DEFENSE, SOVIET MILITARY POWER: AN ASSESSMENT OF THE THREAT 89-91 (1988); U.S. DEP'T OF DEFENSE, SOVIET MILITARY POWER: PROSPECTS FOR CHANGE 67-68 (1989); Storella, *Poisoning Arms Control: The Soviet Union and Chemical/Biological Weapons*, INST. FOR FOREIGN POL'Y ANALYSIS SPECIAL REP. 42 (June 1984); Segal, *The Soviet Union's Mighty Chemical Warfare Machine*, ARMY, 26-38 (1987); U.S. DEP'T OF DEFENSE, CONTINUING DEVELOPMENT OF CHEMICAL WEAPONS CAPABILITIES IN THE USSR (1983). The Soviet Union has officially declared that it maintains a CW stockpile of less than 50,000 tons of agents — approximately the same level as the United States — but many Western authorities dispute this claim, offering estimates of the Soviet CW arsenal as high as 750,000 tons. Thatcher, *Superpower Arsenals*, *supra* note 21, at B8, col.5; J. ROBINSON, DEVELOPMENTS: 1985, *supra* note 29, at 35-40; SOVIET CHEMICAL WEAPONS THREAT, *supra* note 21, at 1; *After the Paris Conference*, *supra* note 4, at 4; E. SPIERS, *supra* note 15, at 1 (quoting former Secretary of Defense Harold Brown as admitting that "there is no decent estimate" of Soviet CW inventory). But see Robinson, *Chemical Warfare Capabilities of the Warsaw and North Atlantic Treaty Organizations: An Overview from Open Sources*, in SIPRI, CHEMICAL WEAPONS: DESTRUCTION AND CONVERSION 9 (1980) [hereinafter DESTRUCTION AND CONVERSION] (CW capabilities of NATO and Warsaw Pact are roughly equivalent, although most Western spokespersons do not seem to realize this fact). In January of 1989, the Soviet Union announced that it had ceased production of chemical weapons and would shortly begin destroying some of its stockpiled CW. *Moscow Announces Chemical Arms Cuts*, Wash. Post, Jan. 9, 1989, at A1, col. 5; Feinstein, *Bush U.N. Speech on Chemicals Draws Mixed Reactions*, 19 ARMS CONTROL TODAY 28-29 (1989). The most recent, secret official American estimates

has an impressive array of systems for the development, production, storage and delivery of CW.⁴⁰ In addition, the Soviet Union has developed a more sophisticated and comprehensive doctrine⁴¹ for the military use of CW, and has undertaken more training of troops for operations in a chemical battlefield.⁴² The Soviets may also have a substantial lead over the United States in CW defenses — devices for protecting individual soldiers and for decontaminating equipment hit by CW.⁴³

The contemporary upsurge in interest in chemical weapons as “the poor nation’s atom bomb”⁴⁴ has also led to heightened concerns about the possible further proliferation of chemical capacity.⁴⁵ Already, about fifteen countries are considered to be capable of waging chemical warfare, and perhaps twenty others on the threshold seem to be pointing in the same hazardous direction.⁴⁶ The alarming possibility of readily avail-

of the Soviet CW arsenal are substantially lower than those propounded earlier, now suggesting a Soviet arsenal of roughly 75,000 tons of lethal agents, compared to 30,500 for the United States. *Estimate of Soviet Arms Is Cut*, Wash. Post, Nov. 19, 1989, at A71, col. 1.

40. See SOVIET CHEMICAL WEAPONS THREAT, *supra* note 21; Hamm, *supra* note 3, at 130-34.

41. COMPTROLLER GENERAL’S REP., *supra* note 3, at 25; see S. SEAGRAVE, *supra* note 18, at 208; CHEMICAL WARFARE IN SOVIET MILITARY DOCTRINE (E. Jacchia ed. 1985).

42. COMPTROLLER GENERAL’S REP., *supra* note 3, at 49-53.

43. SOVIET CHEMICAL WEAPONS THREAT, *supra* note 21, at 19-20; Segal, *supra* note 39, *passim*; Thatcher, *Superpower Armaments*, *supra* note 21, at B9, col. 3 (U.S.S.R. has 40,000 vehicles available to perform decontamination functions; NATO has fewer than 600). *But see* Meselson & Robinson, *supra* note 15, at 41; COMPTROLLER GENERAL’S REP., *supra* note 3, at 38-48 (United States is superior in some areas of CW defenses and defensive technology). See generally Barnaby, *Preface* to SIPRI, MEDICAL PROTECTION AGAINST CHEMICAL-WARFARE AGENTS (1976) (“chemical weapons have the singular characteristic among weapons that, in principle, nearly perfect protection against their effects could be provided to individuals” through masks, antidotes, decontamination, etc.).

44. Livingstone & Douglass, *CBW: The Poor Man’s Atomic Bomb*, INST. FOR FOREIGN POL’Y ANALYSIS, NATIONAL SECURITY PAPER: 1 (Feb., 1984). One group of experts has estimated that “for a large-scale operation against a civilian population, casualties might cost about \$2,000 per square kilometer with conventional weapons, \$800 with nuclear weapons, \$600 with nerve gas weapons, and \$1 with biological weapons.” *Id.* at 7.

45. See *Hearings on Global Spread*, *supra* note 3 (testimony of CIA Director William H. Webster); U.S. DEP’T OF DEFENSE, SOVIET MILITARY POWER: PROSPECTS FOR CHANGE 1989 (NATO alliance strongly supports negotiation of comprehensive CW treaty); see also *World Takes New Form at Chemical Arms Talks*, Wash. Times, Jan. 17, 1989, at A9, col. 1 (January, 1989 Paris Conference on chemical weapons reflected great international concern about spreading CW capabilities, but few concrete solutions for dealing with problem; traditional means of diplomacy seem inadequate). Several states have explicitly renounced any CW capacity, including some, such as the United Kingdom, which had previously developed important CW arsenals. Today, only the United States, the Soviet Union, and Iraq admit that they deploy chemical weapons.

46. There is considerable variation in public estimates regarding which states already possess chemical weapons, which states are attempting to develop them, and which states have the industrial and technological base to support a future decision to procure CW. In each instance, the trend in recent years has clearly been rising. In the 1960s, perhaps 5 to 7 states were thought to own CW; by 1985, the most common estimates were in the range of 13 to 16 states, usually including some combination of the following: United States, Soviet Union, France, Burma, China, Egypt, Ethiopia, Israel, North Korea, Syria, Taiwan, Libya, Iraq, Iran,

Long Arms and Chemical Arms

able chemical arms, distributed to numerous small countries, and possibly to terrorist organizations as well, generates some of the most intractable security nightmares for the United States and the rest of the world, and injects renewed vigor into the international effort to regulate the incipient danger.⁴⁷

B. *The Control of Chemical Weapons*

The chronology of diplomatic and legal efforts to regulate the use of chemical weapons is much shorter than the parallel history of military and scientific attempts to perfect the devices — and the arms control side is also a tale of much more limited successes.⁴⁸

Vietnam, Czechoslovakia, Poland, East Germany. J. ROBINSON, DEVELOPMENTS: 1985, *supra* note 29, at 40-44; Satchel & Blaug, *supra* note 1, at 30; Thatcher & Aepfel, *Poison on the Wind, Part I: The Poisons Spread*, Christian Sci. Monitor, Dec. 13, 1988, at B8-9 [hereinafter Thatcher & Aepfel, *The Poisons Spread*]; see *Egypt Acquiring Elements of Poison Gas Plant*, Wash. Post, Mar. 11, 1989, at A20, col. 3; *N. Korea No. 3 in Chemical Weapons*, Wash. Times, Jan. 13, 1989, at A9, col. 1. Other states that may already possess CW, or are considered likely to be trying to acquire them, include South Africa, Pakistan, India, Nicaragua, Peru, Bulgaria, Sudan. Satchel & Blaug, *supra* note 1.

47. See Livingstone & Douglass, *supra* note 44 (presenting scenarios in which CW proliferation would be a credible danger and in which current international mechanisms do not seem to offer an effective response); Ember, *Worldwide Spread of Chemical Arms Receiving Increased Attention*, CHEMICAL & ENGINEERING NEWS, Apr. 14, 1986, at 8 [hereinafter Ember, *Worldwide Spread*]; Schrag, *A New Genie Emerging*, Christian Sci. Monitor, Apr. 25, 1988, at 14, col. 1 (describing dangers of combined proliferation of CW and long-range ballistic missiles); Tesko, *Chemical Warfare Treaty/ Chemical Warfare Threats: It's Not Just the Soviets Anymore*, 74 NAT'L DEF. NO. 446, at 31 (1989); *After the Paris Conference*, *supra* note 4, at 4; Hoeber, *supra* note 21, at 44-50; Raymond A. Zilinskas, *Terrorism and Biological/Toxin Weapons: Inevitable Alliance?*, Speech to Annual Meeting of the American Association for the Advancement of Science (Jan. 17, 1989); Adelman, *Chemical Weapons: Restoring the Taboo*, 30 ORBIS 443 (1986). Chemical weaponry may be of only marginal military value for either of the superpowers (because CW is hard to control, its use forces the user to don cumbersome protective clothing, and it can be defended against). Nonetheless, it may be an ideal terrorist device, and the leading nuclear powers therefore have an especially compelling shared interest in limiting its spread. The CW treaty, however, will do little that directly addresses the threat of terrorist use of CW. Instead, the treaty aims principally to prevent the accumulation of militarily significant stockpiles of CW by states; this effort, if successful, may have some subsidiary effect on retarding the spread of lethal capabilities to subnational groups, but this aspect of the CW nightmare is likely to persist in any event.

48. There are records of some ancient attempts by the Greeks, Romans and Hindus to outlaw the use in war of poison gases, poison arrows, and the like, but there were no comprehensive or durable agreements. Storella, *supra* note 39, at 4.

One commentator has asked whether the entire legal regime of chemical weapons arms control today is still so impotent as to be meaningless, essentially irrelevant to states' decisions about whether to produce or use CW. Robinson, *Chemical Warfare Arms Control: A Framework for Considering Policy Alternatives*, in SIPRI CHEMICAL & BIOLOGICAL WARFARE STUDIES No. 2, at 6 (1985) [hereinafter Robinson, *Chemical Warfare*].

The 1868 Declaration of St. Petersburg⁴⁹ was the first international accord to consider even indirectly the question of CW, and it reflected a shared, albeit general, notion that the use of devices that cause unnecessary suffering was "contrary to the laws of humanity."⁵⁰ The Hague International Peace Conferences of 1899⁵¹ and 1907⁵² were the first occasions to deal explicitly with chemical weaponry, and the parties there agreed to forbid the use of "poison or poisoned weapons"⁵³ and of "asphyxiating or deleterious gases."⁵⁴ Other similar prohibitions shortly followed in other international accords.⁵⁵

49. Declaration Renouncing the Use in Time of War, of Explosive Projectiles Under 400 Grammes Weight, Nov. 29-Dec. 11, 1868, 18 Martens Nouveau Recueil (ser. 1) 474, *reprinted in* 1 AM. J. INT'L L. (Supp. 95) (1907).

50. *Id.* The Declaration did not deal with chemical weapons specifically, but provided the principles upon which wars were to be fought (for example, stating that the sole purpose of hostilities is to weaken the enemy's military forces) and renounced the use of certain light-weight projectiles which were "either explosive or charged with fulminating or inflammable substances." *Id.*

Similar principles were expressed in the work of the Brussels Conference of 1874: I. Final Protocol; II. Project of an International Declaration Concerning the Laws and Customs of War, Aug. 27, 1874, 4 Martens Nouveau Recueil (ser. 2) 219, but this convention never entered into force. 2 A. VAN W. THOMAS & A. THOMAS, JR., DEVELOPMENT OF INTERNATIONAL LEGAL LIMITATIONS ON THE USE OF CHEMICAL AND BIOLOGICAL WEAPONS 53 (1968) (report prepared for the U.S. Arms Control and Disarmament Agency).

51. Convention (II) with Respect to the Laws and Customs of War on Land, July 29, 1899, 32 Stat. 1803, 26 Martens Nouveau Recueil (ser. 2) 949, *reprinted in* 1 AM. J. INT'L L. (Supp. 129) (1907) [hereinafter 1899 Convention]; Annex to the Convention. The Hague Conferences were called by Tsar Nicholas II to codify the laws of war and to create a system for the peaceful resolution of international disputes. *See* ARMS CONTROL AND DISARMAMENT AGREEMENTS, *supra* note 5, at 3; 2 A. VAN W. THOMAS & A. THOMAS, JR., *supra* note 50, at 54-67.

52. Convention (IV) Respecting the Laws and Customs of War on Land, Oct. 18, 1907, 36 Stat. 2277, T.S. No. 539, 3 Martens Nouveau Recueil (ser. 3) 461, *reprinted in* 2 AM. J. INT'L L. (Supp. 90) (1908) [hereinafter 1907 Convention], Annex to the Convention. The 1907 convention also included a prohibition against certain types of mines and torpedoes.

53. 1899 Convention, *supra* note 51, art. xxiii; 1907 Convention, *supra* note 52, art. xxiii.

54. 1899 Convention *supra* note 51, at Declaration, para. 1.

55. The Treaty of Peace with Germany, 11 Martens Nouveau Recueil (ser. 3) 323, *reprinted in* 13 AM. J. INT'L L. (Supp. 151) (1919), prohibited Germany from using, manufacturing, or importing "asphyxiating, poisonous or other gases and all analogous liquids, materials or devices." *Id.* at art. 171. *See* A. VAN W. THOMAS & A. THOMAS, JR., *supra* note 50, at 68-73. The Treaty Relating to the Use of Submarines and Noxious Gases in Warfare, Feb. 6, 1922, *reprinted in* 16 AM. J. INT'L L. (Supp. 57) (1922), negotiated among the leading military powers in 1921-22, would have prohibited the use of CW in similar terms (*see* article V), but never entered into force due to the opposition of France. E. SPIERS, *supra* note 15, at 40-43; F. BROWN, *supra* note 24, at 61-72. The Convention on the Limitation of Armaments of Central American States, Feb. 7, 1923, art. 5, *reprinted in* 2 M. HUDSON, INTERNATIONAL LEGISLATION 942, 945 (1931) (no longer in force) also contained a similar ban. *See* A. VAN W. THOMAS & A. THOMAS, JR., *supra* note 50, at 81.

Long Arms and Chemical Arms

The most important CW treaty, the Geneva Protocol of 1925,⁵⁶ arose from revulsion with the experience of World War I.⁵⁷ It prohibits “the use in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices.”⁵⁸ The Geneva Protocol does not prohibit the development and acquisition of chemical arms, only their actual use in international battle, and then only against another state party to the treaty.⁵⁹ The Geneva Protocol was signed by all the leading states of the world and promptly ratified by many of them; it entered into force in 1928.

The United States, however, remained outside the Geneva Protocol for 50 years, due to a variety of domestic political considerations,⁶⁰ until ratifying it in 1975. The United States had earlier declared that it would not be the first to use chemical weapons in war,⁶¹ but the national leadership was divided on the question of the scope of the treaty’s ban, with some

56. Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, June 17, 1925, 26 U.S.T. 571, T.I.A.S. 8061, 94 L.N.T.S. 65, reprinted in 14 I.L.M. 49 [hereinafter Geneva Protocol].

57. See ARMS CONTROL AND DISARMAMENT AGREEMENTS, *supra* note 5, at 4, 9-13; F. BROWN, *supra* note 24, at 97-110.

58. Geneva Protocol, *supra* note 56, at para. 1. The treaty also extended this prohibition to comparable methods of bacteriological warfare, and committed the parties to “exert every effort to induce other States to accede” to it. *Id.* at paras. 4 and 5. Many states have affixed restrictive reservations to the Geneva Protocol, undertaking to apply its restrictions only against an enemy who is also complying with it, so the treaty has, in effect, become merely a prohibition against the first use of CW. ARMS CONTROL AND DISARMAMENT AGREEMENTS, *supra* note 5, at 9.

59. See *Libya Says It Can Make Chemical Arms if Others Do*, N.Y. Times, Jan. 10, 1989, at A12, col. 3; Note, *International Regulation of Chemical and Biological Weapons: “Yellow Rain” and Arms Control*, 1984 U. ILL. L. REV. 1011; S. MURPHY, A. HAY & S. ROSE, *supra* note 24, at 87 (30 states have attached reservations to their ratifications of Geneva Protocol, to preserve right to use CW in retaliation against another state that uses them first). The imprecision of the Geneva Protocol has led to speculation that it might provide very little protection against incremental escalation of the use of various poisons during a war — for example, when the first use of riot control agents might serve as a justification for the introduction by the other side of more lethal agents, and ultimately for the full-scale, retaliatory use of all chemical and biological arms. R. CLARKE, *supra* note 2, at 201.

60. F. BROWN, *supra* note 24, at 103. The Senate Foreign Relations Committee had favorably reported the Geneva Protocol in 1926, but there was intense lobbying activity against the treaty, led by various veterans’ organizations and the chemical industry, and it was never brought to a vote. President Truman withdrew the treaty from the Senate, and it attracted little attention thereafter. ARMS CONTROL AND DISARMAMENT AGREEMENTS, *supra* note 5, at 10; S. SEAGRAVE, *supra* note 18, at 76; E. SPIERS, *supra* note 15, at 46.

61. During World War II, President Roosevelt had declared, concerning CW, “I state categorically that we shall under no circumstances resort to the use of such weapons unless they are first used by our enemies.” ARMS CONTROL AND DISARMAMENT AGREEMENTS, *supra* note 5, at 9. CW are the only category of weapons that the United States has pledged it will not be the first to use. Thatcher & Aepfel, *The Poisons Spread*, *supra* note 46, at B2. But see S. HERSH, *supra* note 16, at 22-25 (United States changed policy in 1956 to permit first use of chemical and biological weapons during conventional warfare).

maintaining that it should not be interpreted as applying to non-lethal chemicals used as herbicides or for riot-control purposes.⁶²

Other interwar efforts at more comprehensive CW controls were unsuccessful,⁶³ and after World War II, the arms control negotiators began to consider the possibility of splitting the general problem in half, dealing more promptly with biological weapons, which seemed ripe for regulation, and deferring the more intractable issues of chemical weapons.⁶⁴ In 1969, President Nixon renounced biological warfare, and set about uni-

62. Baxter & Buerghental, *Legal Aspects of the Geneva Protocol of 1925*, in *THE CONTROL OF CHEMICAL AND BIOLOGICAL WEAPONS I* (Carnegie Endowment for Int'l Peace ed. 1971). Most of the international community (including many traditional United States allies) had long asserted that the Geneva Protocol was designed to deal with not only lethal chemical agents, but irritants and herbicides as well. See J. BOULDEN, *supra* note 10, at 6; G.A. Res. 2603 A, 24 U.N. GAOR Supp. (No. 30) at 16, U.N. Doc. A/7630 (1969). In the 1970s, the Nixon administration was still of the view that the treaty properly had only the narrower scope, and proposed that the Senate give its advice and consent, subject to a reservation adopting the more restrictive interpretation. The Senate Foreign Relations Committee, however, favored the broader view of the treaty and was unwilling to approve it in the limited form. Finally, in 1974, the Ford Administration announced that, although still convinced that the narrow interpretation was legally justified, it would renounce as a matter of policy the possibility of using non-lethal chemical agents in war, except for a very small set of contingencies. The Senate accepted this compromise, and the United States then proceeded to ratification. See *ARMS CONTROL AND DISARMAMENT AGREEMENTS*, *supra* note 5, at 9-13.

The distinction between lethal, incapacitating, and irritant chemicals is an ambiguous one, and even nominally riot control agents may be harmful or fatal when used improperly, in high concentrations, or against the elderly or infirm. See *Hearings on Foreign Policy Implications*, *supra* note 38, at 19 (statement of Michael J. Matheson, Assistant Legal Adviser for Political-Military Affairs, Dep't of State); *Russian Nerve Gas Used in Angola War*, Sunday Times (London), Mar. 20, 1988, at A17, col. 1; 8 *ARMS CONTROL REP.* No. 5, *supra* note 4, at 202.

63. The 1932-37 Disarmament Conference attempted, without success, to develop an agreement to prohibit the production and deployment of biological and chemical weapons. *ARMS CONTROL AND DISARMAMENT AGREEMENTS*, *supra* note 5, at 120; F. BROWN, *supra* note 24, at 110-21.

After World War II, the peace treaties forbid former Axis powers from acquiring CW in the future. Meselson & Robinson, *supra* note 15, at 44; N. SIMS, *THE DIPLOMACY OF BIOLOGICAL DISARMAMENT: VICISSITUDES OF A TREATY IN FORCE, 1975-85*, 41 (1988). In addition, pursuant to the treaty which admitted West Germany into NATO, the Western European Union has conducted on-site inspection of the West German chemical industry to monitor the non-production of CW. See A. VAN W. THOMAS & A. THOMAS, JR., *supra* note 50, at 140-47; N. SIMS, *supra*, at 40-41.

64. Lawler, *Progress Towards International Control of Chemical and Biological Weapons*, 13 U. TOL. L. REV. 1220, 1220-26 (1982). Biological weapons were seen as less militarily useful, and therefore easier for countries to give up. Fieth, *Biological Weapons & the Limits of Arms Control*, NAT'L INTEREST, Winter 1986/87, at 80; Douglas, *The Challenges of Biochemical Warfare*, 3 GLOBAL AFF. 156 (1988).

Some had argued that the process of imposing tight constraints on BW would simply exacerbate the problem of CW by emphasizing the relative absence of effective controls. Others, however, urged that the two groups of weapons really were dissimilar (i.e., BW had never been generally used in war, and seemed to most military experts to be too uncontrollable to be truly promising as weapons, so the cost of giving them up would be lower), and that arms control advocates should pursue progress, even limited progress, wherever possible. The superpowers argued this question for years before reaching a reconciliation. *ARMS CONTROL AND DIS-*

laterally destroying all United States biological weapons stocks.⁶⁵ This American initiative was heralded internationally, and a multilateral Biological Weapons Convention⁶⁶ was quickly drawn up, entering into force in 1975.⁶⁷

In addition to this progression of international treaties, there is substantial authority for the proposition that the consensus of the interna-

ARMAMENT AGREEMENTS, *supra* note 5, at 120-21; Trapp, *supra* note 5, at 108; COMPTROLLER GENERAL'S REP., *supra* note 3, at 78-79.

During the same era, the United States and Soviet Union negotiated, and then opened for multilateral adherence, the Convention on the Protection of Military or Any Other Hostile Use of Environmental Modification Techniques, May 18, 1977, 31 U.S.T. 333, T.I.A.S. 9614, reprinted in 16 I.L.M. 88 (1977), which prohibits military use of techniques for widespread, long-lasting or severe manipulation of the environment, a ban which might have implications for the large-scale use of certain chemical or biological weapons.

65. Holmes, *Foreign Policy Implications of Biological Weapons*, 89 DEP'T STATE BULL. 22, 23 (1989). On November 25, 1969, President Nixon announced that the United States was unconditionally forswearing all forms of biological warfare, REPORT OF THE STOESSEL COMMISSION, *supra* note 35, at 91, Appendix E; on February 14, 1970, the ban was extended to cover toxins as well. ARMS CONTROL AND DISARMAMENT AGREEMENTS, *supra* note 5, at 121. These declarations reserved the right to possess research amounts of the controlled substances, however, and research on defenses against biological weapons has continued, and has recently accelerated in the United States and elsewhere. *Preliminary Report of the Majority Staff of the Senate Subcomm. on Oversight of Government Management on DOD's Safety Programs for Chemical and Biological Research*, May 11, 1988, reprinted in *Department of Defense Safety Programs for Chemical and Biological Warfare Research: Hearings Before the Subcomm. on Oversight of Government Management of the Senate Comm. on Governmental Affairs*, 100th Cong., 2d Sess. 270-86, appendix A (1988); *Poison on the Wind, Part 3: Tailor-made Toxins*, Christian Sci. Monitor, Dec. 15, 1988, at B1, col. 3; *Germ Wars, Hearing Before the Senate Governmental Affairs Comm. and its Permanent Subcomm. on Investigations*, 101st Cong., 1st Sess. (photo. reprint 1989); Wright, *The Military and the New Biology*, BULL. ATOM. SCIENTISTS 10-16 (May 1985); DEFENSE INTELLIGENCE AGENCY, SOVIET BIOLOGICAL WARFARE THREAT, DST-1610F-057-86 (1986).

66. Convention on the Prohibition of Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, April 10, 1972, 26 U.S.T. 583, T.I.A.S. No. 8062, 1015 U.N.T.S. 163, reprinted in 11 I.L.M. 310 (1972) [hereinafter Biological Weapons Convention]. See generally E. GEISSLER, BIOLOGICAL AND TOXIN WEAPONS TODAY (1986); ARMS CONTROL AND DISARMAMENT AGREEMENTS, *supra* note 5, at 120-23; N. SIMS, *supra* note 63, *passim*. The Biological Weapons Convention makes little provision for verification of compliance, on the assumption that since the United States was already willing to renounce BW unilaterally, the possibility of the Soviet Union or others cheating on the terms of the agreement was less important. Storella, *supra* note 39, at 14. The Convention provides only that the parties shall consult and cooperate to resolve compliance questions, and that complaints about violations may be lodged with the United Nations Security Council. Biological Weapons Convention, *supra*, arts. 5 & 6. In retrospect, this sparse treatment of compliance issues has been a mistake, as unresolved controversies over alleged Soviet biological weapons-related activities have damaged the arms control process and jeopardized other negotiations. Harris, *Sverdlovsk*, *supra* note 29; Flowerree, *Cloudy Treaties*, FOREIGN SERVICE J., May 1983, at 15; E. GEISSLER, *supra*, at 90-91; Fieth, *supra* note 64.

67. Note, *supra* note 59, at 1042-44. The Biological Weapons Convention also obligates its parties "to continue negotiations in good faith with a view to reaching early agreement on effective measures for the prohibition of [chemical weapons] development, production and stockpiling and for their destruction, and on appropriate measures concerning equipment and means of delivery specifically designed for the production or use of chemical agents for weapons purposes." Biological Weapons Convention, *supra* note 66, art. 9.

tional community has developed to the point where the use of lethal chemical agents has now become a violation of customary international law.⁶⁸ As such, CW use would be illegal for all states, even those not party to a binding agreement.⁶⁹ Although this jurisprudential point is hard to test, and its exact parameters are indeterminate,⁷⁰ it is supported by the virtual unanimity with which CW applications are condemned,⁷¹ as well as by the overwhelming consensus approving resolutions of the United Nations General Assembly on point.⁷²

68. S. BOWMAN, *YELLOW RAIN AND RELATED ISSUES: IMPLICATIONS FOR THE UNITED STATES* (Library of Congress, Congressional Research Service Issue Brief IB82025 at 7-8, Sept. 29, 1983) (many international lawyers argue that prohibition on use of chemical weapons is so widely recognized that it has become a part of customary international law; others note that customary international law is difficult to establish and controversial to apply); Hoeber, *supra* note 21 (both United States and Soviet Union have officially supported view that CW use is violation of customary international law); A. VAN W. THOMAS & A. THOMAS, JR., *supra* note 50, at 154-216; Note, *supra* note 59, at 1048-57.

69. Customary international law, binding upon states even in the absence of an explicit agreement, arises from "a general and consistent practice of states followed by them from a sense of legal obligation." RESTATEMENT (THIRD) § 102(2).

70. It is difficult to state with precision what the regime of customary international law encompasses regarding chemical weapons. For example, does it govern the use of non-lethal chemicals, such as riot-control agents or herbicides; does it automatically include some form of "reciprocity" requirement, effectively prohibiting only the first use of CW; does it acknowledge any states as having effectively dissented from the emerging norm and thus being exempted from it? See Note, *supra* note 25, at 290-91 (questioning whether alleged use of CW in Afghanistan and Southeast Asia would be illegal under ambiguous terms of existing treaties).

71. In the recent case of Iran and Iraq, for example, much of the international community expressed outrage at the use of chemical weapons in violation of international norms. George Shultz, Chemical Weapons: A Global Call to Action (address at Conference on Chemical Weapons, Jan. 7, 1989), reprinted as *Secretary's Address, Prohibition of Chemical Weapons Conference Held in Paris*, DEP'T STATE BULL. 4, Mar. 1989, at 9 (Final Declaration of the 1989 Paris Conference on the Prohibition of Chemical Weapons); Dickson, *Chemical Arms Ban Still Uncertain*, 243 SCIENCE 301 (1989). There was, however, little collective action by way of sanctions against the users, and Iraq seems not to have paid much of a price for breaching the taboo against CW use. Thatcher & Aeppel, *The Poisons Spread*, *supra* note 46, at B14; Hoeber & Feith, *Poison Gas, Poisoned Treaties*, N.Y. Times, Dec. 6, 1988, at A35, col. 1; Smolowe, *supra* note 30; Gupta, *What Do We Do about Chemical Weapons?*, SWORDS AND PLOUGHSHARES: THE BULL. OF THE PROGRAM IN ARMS CONTROL, DISARMAMENT, AND INT'L SECURITY, Mar. 1989, at 11. Some commentators have feared that the global consensus against chemical warfare is breaking down, and that the increasing use of CW in combat has led to a "banalization" of the issue, with decreasing international reprobation. Morel, *How to Prevent the Proliferation of Chemical Weapons: The Political Aspects*, in DISARMAMENT, PROCEEDINGS OF THE UNITED NATIONS CONFERENCE ON DISARMAMENT ISSUES, APRIL 19-22, 1989, KYOTO, JAPAN 39, 41 (1989); Adelman, *Chemical Weapons: Restoring the Taboo*, 30 ORBIS 443 (1986).

72. See 1987 U.N. DISARMAMENT Y.B. 249-75 (numerous General Assembly resolutions concerning CW have been adopted since early 1970s, and two more were adopted in 1987: G.A. Res. 42/37 A (urging CD to intensify its negotiating efforts) and G.A. Res. 42/37 C (opposing use of CW)); 1988 U.N. DISARMAMENT Y.B., *supra* note 5, at 285 (G.A. Res. 43/74 A on December 7, 1988); see also S.C. Res. 620, 43 U.N. SCOR Supp. at 12, U.N. Doc. S/INF/44 (1988). A resolution or declaration of the United Nations General Assembly is not ordinarily binding as international law, but it is a type of "state practice" and may be evidence of an international consensus on point. RESTATEMENT (THIRD) § 102 reporters' note 2.

C. *The Current Negotiations*

The present iteration of chemical weapons negotiations has been proceeding incrementally in the CD since the early 1980s, building upon some fifteen years of preliminary talks and explorations.⁷³ Some phases of the conversations have been strictly bilateral, as the United States and Soviet Union attempt to iron out a mutually acceptable regime that they could then present to the rest of the world.⁷⁴ Some phases have enjoyed a limited multilateral participation, as the leading chemical-producing states collaborate among themselves to develop a regime that adequately balances the interests of arms control, verification, and commercial activity.⁷⁵ And some important phases of the negotiations have been fully

73. Compilation of Material on Chemical Warfare from the Conference of the Comm. on Disarmament and the Comm. on Disarmament Working Papers and Statements, 1972-1979, Comm. on Disarmament document CD/26, July 1, 1979, reprinted in *DESTRUCTION AND CONVERSION*, *supra* note 39, at 169-92; 1 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 5, at v; Flowerree, *The Politics of Arms Control Treaties: A Case Study*, 37 J. INT'L AFF. 269 (1984); E. SPIERS, *supra* note 15, at 175-97; Robinson, *Information Processes*, *supra* note 25, at 6; 1988 U.N. DISARMAMENT Y.B., *supra* note 5, at 274. Much of the important technological and historical preparatory work for the negotiations was done for many years by non-governmental entities, such as the Stockholm International Peace Research Institute (SIPRI); the Pugwash Chemical Warfare Study Group, 1 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 5, at ix-x; and the International Red Cross, A. VAN W. THOMAS & A. THOMAS, JR., *supra* note 50, at 147-51.

74. ARMS CONTROL IMPACT STATEMENTS, *supra* note 35, at 131-34; Joint U.S.S.R.-U.S. Report on Progress in the Bilateral Negotiations on the Prohibition of Chemical Weapons, in letter to the Chairman of the Committee on Disarmament (Aug. 7, 1979), CD/48; Joint U.S.-U.S.S.R. Report on Progress in the Bilateral Negotiations on the Prohibition of Chemical Weapons (July 7, 1980). The United States and Soviet Union opened bilateral negotiations on CW in 1977, and these talks became institutionalized, with sustained contact between expert delegations. By 1979 the two states had commenced a "joint initiative" to try to develop a mutually acceptable treaty, via bilateral negotiations, for subsequent presentation to the CD. Joint U.S.S.R.-United States Report on Progress in the Bilateral Negotiations on the Prohibition of Chemical Weapons, Committee on Disarmament document CD/48 (Aug. 7, 1979), reprinted in *DESTRUCTION AND CONVERSION*, *supra* note 39, at 165-68; Goldblat, *Status of US-Soviet Negotiations for a Chemical Weapons Convention*, in *id.* at 157-64; Meselson & Robinson, *supra* note 15, at 47. However, these talks were suspended in 1980, ostensibly due to American concerns about Soviet use of "yellow rain" chemical weapons in Asia. Trapp, *supra* note 5, at 113-15; Fokin & Babievsky, *Toward Freeing the European Continent from Chemical Weapons*, in 2 THE CHEMICAL INDUSTRY AND THE PROJECTED CHEMICAL WEAPONS CONVENTION, PROCEEDINGS OF A SIPRI/PUGWASH CONFERENCE [hereinafter 2 SIPRI/PUGWASH CONFERENCE PROCEEDINGS] 91 (1986); *Hearings on Foreign Policy Implications*, *supra* note 38, at 176-77 (statement of Charles C. Flowerree). In 1984, bilateral United States-Soviet Union contacts on CW were resumed in the margins of the CD discussions. J. ROBINSON, DEVELOPMENTS: 1985, *supra* note 29, at 49; see also Flowerree, *Chemical Weapons*, *supra* note 25, at 7 (Soviet Union may be more receptive in bilateral context than in multilateral negotiations, and more willing to agree to intrusive verification when only United States would be inspecting); Smith, *Reagan Offers a Chemical Weapons Treaty*, 224 SCIENCE 263, 264 (1984) (quoting former arms control official Tom Davies as saying, "for any important treaty, there has to be a bilateral agreement" first).

75. Since 1985, the "Australian group" of developed states (composed of the Western European states, the United States, Canada, Japan, Australia, New Zealand and others) has met periodically on the fringes of the CD, to consider informal methods for coordinating their

multilateral, as the CD develops the rolling text in painstaking negotiations open to the public view.⁷⁶

The current rolling text has evolved largely in response to American initiatives.⁷⁷ In February, 1983, the United States delegation tabled its

individual policies regarding the export of CW-related materials and equipment. Thatcher & Aeppel, *The Poisons Spread*, *supra* note 46, at B14; Ember, *Worldwide Spread*, *supra* note 47, at 11; *Hearings on Global Spread*, *supra* note 3 (submission of Government of Australia to Hearings on Chemical Weapons by Permanent Subcomm. on Investigations of Senate Comm. on Governmental Affairs). Following discussions with the United States, the Soviet Union also announced the imposition of export controls upon its own shipments of a number of sensitive chemicals. *Chemical Warfare Policy*, *supra* note 37, at 38.

76. Trapp, *supra* note 5, at 115 (CD established Ad Hoc Working Group on Chemical Weapons in 1980); Note, *supra* note 17, at 106-07, 121-22 (recounting early CW negotiations in CD and its predecessor institutions).

Unlike most bilateral United States-Soviet Union arms control negotiations, CD proceedings are unclassified and generally open to the public (although there are many important private meetings of subsidiary bodies and of informal groupings operating on the margins of the main negotiations). This openness may mean that the CW negotiations proceed at a more deliberate pace, but it has the advantage of public participation and accessibility, as well as recognizing the reality that, with such a large number of participants, effective secrecy would be impossible to sustain. In contrast, the ongoing bilateral negotiations concerning United States and Soviet Union nuclear arms are confidential, and the negotiating documents are generally not made available. See McNeill, *U.S.-U.S.S.R. Nuclear Arms Negotiations: The Process and the Lawyer*, 79 AM. J. INT'L L. 52, 56 (1985).

77. Other states, too, have made major contributions to the evolving negotiations. See Fokin & Babievsky, *supra* note 74; Basic Provisions of a Convention on the Prohibition of the Development, Production and Stockpiling of Chemical Weapons and on Their Destruction, Proposal of the USSR, June 15, 1982, reprinted in ARMS CONTROL REP., June 1982, at 704.D.3 (Soviet initiatives); Cooper, *Verification of the Non-production of Chemical Weapons: The United Kingdom Approach*, in 2 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 74, at 33-82; Luce, *Chemical Weapons: Negotiating a Total Ban*, NATO REV. NO. 3 (1985) (British contributions); Lau, *A Comprehensive Approach for Elaborating Regimes for Chemicals in a Future Chemical Weapons Convention*, in 2 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 74, at 113-20 (Swedish draft convention). In 1982, during the second United Nations Special Session on Disarmament, the Soviet Union tabled a draft chemical weapons convention, widely regarded as a major step forward. J. BOULDEN, *supra* note 10, at 7. See generally Basic Provisions for a Chemical Weapons Convention, CD-294, June 15, 1982.

A number of rather different types of CW treaties have been considered in recent years. J. ROBINSON, DEVELOPMENTS: 1985, *supra* note 29, at 45. See generally Robinson, *Chemical Warfare*, *supra* note 48, at 17-23. This article is principally concerned with the concept of a relatively "comprehensive" CW agreement, designed to deal with the full range of outstanding issues; this is the version of an agreement that has received by far the most attention and support in the CD negotiations and elsewhere. In contrast, some have expressed interest in a more limited "non-proliferation" agreement that would address solely the concerns about the spread of CW capacity to other states. Kamal, *The Chemical Weapons Convention: Some Particular Concerns of Developing Countries*, CHEMICAL WEAPONS CONVENTION BULL. NO. 4, May 1989, at 1. This more modest goal might be thought to be more achievable, but few states now seem interested in the concept of splitting the entire problem into pieces. J. ROBINSON, DEVELOPMENTS: 1985, *supra* note 29, at 51-52; Ember, *Worldwide Spread*, *supra* note 47, at 12. In addition, some have proposed "regional" solutions to the problem of CW, starting with agreement among several states in a geographic area (e.g., Europe or Latin America) to "freeze" CW inventories or to ban them outright. See Fokin & Babievsky, *supra* note 74, at 93-95; Lohs, *Verification of the Non-Production of Chemical Weapons: A View from the GDR*, in 2 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 74, at 121-28; J. ROBINSON,

Long Arms and Chemical Arms

“detailed views” for an extensive draft treaty, with major new ideas regarding a comprehensive verification apparatus.⁷⁸ The Soviet Union originally balked at the intrusiveness of the inspection regime, but ultimately agreed to accept the principle of detailed oversight.⁷⁹ In April, 1984, Vice President Bush unveiled an even more far-reaching draft convention⁸⁰ that “goes beyond anything we’ve really proposed before.”⁸¹ This draft convention incorporates an “open invitation”⁸² for inspections to verify compliance with a total ban on the production, stockpiling, and use of chemical weapons.⁸³

DEVELOPMENTS: 1985, *supra* note 29, at 49-51, 67-72; *Chemical Weapon Free Zones?*, in SIPRI CHEMICAL & BIOLOGICAL WARFARE STUD. NO. 7 (R. Trapp ed. 1987); Westing, *Ban Chemical Weapons in Europe*, BULL. ATOM. SCIENTISTS, May 1985, at 17-19.

78. United States Government, United States Detailed Views on the Contents of a Chemical Weapons Ban, Feb. 10, 1983, CD/343, Appendix II; Hamm, *supra* note 3, at 158-59; *U.S. Outlines Chemical-Arms Proposal*, N.Y. Times, Feb. 11, 1983, at A3, col. 4. The 1983 United States proposal was the first to deal in a thorough fashion with the need for on-site inspection (OSI) to verify compliance with the obligations of the treaty. It called for OSI provisions more substantial and intrusive than those that had been agreed to in any previous arms control accord.

79. *Chemical Arms Talks Progress*, Baltimore Sun, Feb. 22, 1984, at 4, col. 3. The Soviet acceptance of the American concept of detailed OSI was a major step forward in the negotiations. Under General Secretary (now President) Gorbachev, the Soviet Union has, on occasion, become even more open regarding its chemical facilities, even inviting American and other visitors to tour a CW facility. Bohlen, *Soviets Allow Experts to Tour Chemical Weapons Facility*, Wash. Post, Oct. 5, 1987, at A17, col. 4; *Steps Toward Greater Openness and Trust* (interview with Colonel-General Vladimir Pikalov, chief of the Soviet chemical troops), SOVIET LIFE, Dec. 1987, at 10-11.

80. United States Draft Convention Submitted to the Conference on Disarmament: Prohibition of Chemical Weapons (Apr. 18, 1984), CD/500, *reprinted in* 1984 DOCUMENTS ON DISARMAMENT 269 (ACDA ed. 1986).

81. *Quoted in* Smith, *A Novel Proposal on Chemical Weapons*, 224 SCIENCE 474 (1984).

82. BUREAU OF PUBLIC AFF., U.S. DEP'T OF STATE, *supra* note 8. In presenting the 1984 American proposal to the CD, Vice President Bush recognized that the concept of “open invitation” inspection was a major departure from previous OSI regimes, but stated that “it is indispensable to an effective chemical weapons ban.” *Id.* at 3; *see also* *U.S. Unveils Draft Treaty Banning Chemical Arms*, Wash. Post, Apr. 19, 1987, at A31, col. 1. More recently, however, the United States itself has wavered on the desirability of “anytime, anyplace” inspection, which would obligate a party to allow foreign inspection, on 24-48 hours’ notice, of any facility suspected of serving an illegal CW function, whenever a five-member Fact-Finding Panel so requested. Some authorities fear that the availability of such unlimited verification could lead to a severe loss of classified information. The United States delegation at the CD may therefore modify and dilute the availability of the proposed OSI rights. *U.S. Expects Delay on Chemical Ban*, N.Y. Times, Feb. 12, 1989, at 23, col. 1.

83. Under the 1984 American proposal, all stockpiles of CW would be declared promptly and would be destroyed within ten years. Chemical weapons production facilities would be dismantled on a comparable timetable. Each country would be permitted to maintain only a single, small-scale CW production facility, under international inspection, for manufacturing a small quantity of CW agents that would be used only in research on defenses against chemical weapons. The American proposal also incorporated the concept of “anytime, anywhere” inspection. *See* Report of the Ad Hoc Committee, *supra* note 6; Tanzman, *Constitutionality of Warrantless On-Site Arms Control Inspections in the United States*, 13 YALE J. INT’L L. 21 (1988).

The current rolling text builds upon the 1984 United States draft, and it is expansive indeed. Under it, the parties would undertake not to “develop, produce, otherwise acquire, stockpile or retain chemical weapons, or transfer, directly or indirectly, chemical weapons to anyone”;⁸⁴ not to “assist, encourage or induce, in any way, anyone to engage in activities prohibited to Parties under this Convention”;⁸⁵ not to use chemical weapons;⁸⁶ and not to engage in any “activities in preparation for [the] use of chemical weapons.”⁸⁷ They would also assume the obligations to destroy existing stockpiles of chemical weapons⁸⁸ and existing chemical weapons production facilities.⁸⁹

Much of the draft treaty is devoted to definitions of chemical weapons, with elaborate “schedules” of different levels of toxicity or weapons potential eliciting different degrees of concern.⁹⁰ The treaty also contains the seeds of a new bureaucracy to administer the treaty,⁹¹ with a Confer-

84. Report of the Ad Hoc Committee, *supra* note 6, art. I.1.

85. *Id.* at art. I.2.

86. *Id.* at art. I.3.

87. *Id.* at art. I, para. 4. The exact wording of this clause is still under consideration. *See id.* at 11.

The CW treaty is unlikely to ban “research” into chemical weapons and defenses, because this activity, which typically occurs inside laboratories or libraries, is impossible to monitor effectively. The parties could not therefore verify other states’ compliance with treaty terms that purport to regulate research. R. CLARKE, *supra* note 2, at 227-28; E. SPIERS, *supra* note 15, at 178; *cf.* Treaty on the Limitation of Strategic Offensive Arms, U.S.-U.S.S.R., June 18, 1979, art. IX, *reprinted in* 18 I.L.M. 1112 (1979) [hereinafter SALT II Treaty]; Treaty on the Limitation of Anti-Ballistic Missile Systems, U.S.-U.S.S.R., May 26, 1972, art. 5, 23 U.S.T. 3435, T.I.A.S. No. 7545, 9444 U.N.T.S. 13 [hereinafter ABM Treaty] (banning development, testing and deployment of specified weapons, but permitting research on them).

88. Report of the Ad Hoc Committee, *supra* note 6, art. I.5; *see also* Ooms, *Verification of the Destruction of Stockpiles of Chemical Weapons*, in DESTRUCTION AND CONVERSION, *supra* note 39, at 123-28 (description of process of verifiably and safely destroying stockpiles of chemical weapons).

89. Report of the Ad Hoc Committee, *supra* note 6, art. I.6. *See also* Mikulak, *Destruction of U.S. Chemical Weapons Production and Filling Facilities*, in DESTRUCTION AND CONVERSION, *supra* note 39, at 57-66 (description of illustrative process for elimination of CW production plants).

90. Report of the Ad Hoc Committee, *supra* note 6, art. II; annex to art. VI, paras. 2, 3. The treaty differentiates between “super-toxic lethal chemicals,” “other lethal chemicals” and “other harmful chemicals,” based upon their potency and on the ease with which they could be converted into weapons. These distinctions also apply to the precursors of these agents. *Id.* at annex to art. VI, para. 2. It also defines the munitions and devices that would be used to carry and release the chemicals. *Id.* art. II; *see* Robinson, *The Chemical Industry and Chemical-Warfare Disarmament: Categorizing Chemicals for the Purposes of the Projected Chemical Weapons Convention*, in 1 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 5, at 55-104; *see also* J. BOULDEN, *supra* note 10, at 9-11 (outlining unresolved issues regarding scope of the treaty).

91. The importance of an effective international control mechanism has long been recognized, and negotiators have struggled over the years with a variety of possible mechanisms to create a viable, politically acceptable regime. *See generally* N. SIMS, *supra* note 5,

Long Arms and Chemical Arms

ence (composed of all parties),⁹² an Executive Council,⁹³ a Technical Secretariat,⁹⁴ and an International Inspectorate.⁹⁵

The real teeth of the draft convention appear in its verification provisions.⁹⁶ These begin with declarations,⁹⁷ at the outset of the treaty's life

92. Report of the Ad Hoc Committee, *supra* note 6, art. VIII B. The Conference is to meet in regular annual sessions as the principal or supreme organ for considering "any questions, matters or issues within the scope of the Convention." Among other duties, it may make recommendations, take decisions, set the programs and budget of the institutions, and oversee the implementation of the Convention. *Id.* The treaty would also establish an umbrella Organization for the Prohibition of Chemical Weapons, with all parties as members, "to achieve the objectives of the Convention, to ensure the implementation of its provisions, including those for international verification of compliance with it, and to provide a forum for consultation and co-operation among States Parties." *Id.* art. VIII A. In addition, the negotiators also contemplate the creation of a Preparatory Commission, which would operate during the interval between the signature and the entry into force of the treaty, "[f]or the purpose of carrying out the necessary preparations for the effective operation of the provisions of the Convention and for preparing for the 1st meeting of the Conference of the State Parties." *Id.* at 91.

93. *Id.* art. VIII C. The Executive Council, among other duties, is to meet regularly, to supervise the activities of the Technical Secretariat, to draft the budget for the Organization, and to consider any other issues concerning the implementation of the Convention. *Id.*

94. *Id.* art. VIII D. Among the responsibilities of the Technical Secretariat is the execution of the international verification measures provided for in the Convention. It is to be led by a Director-General. *Id.*

95. *Id.* The International Inspectorate is a unit of the Technical Secretariat, and is principally responsible for conducting on-site inspections. *Id.* Addendum to app. I.

96. The major stumbling block in the chemical weapons negotiations — as in most other arms control efforts — has been verification. *Hearings on Foreign Policy Implications, supra* note 38, at 177 (statement of Charles C. Flowerree); Dunn, *Chemical Weapons Arms Control: Hard Choices for the Bush Administration*, SURVIVAL, May-June 1989, at 209; see also Morrison, *Trusting, But Verifying*, 1989 NAT'L J. 2580 (discussing some practical problems raised by on-site inspections).

The traditional mechanism for monitoring compliance with arms control treaties is via "national technical means [NTM]," referring to the array of reconnaissance satellites, remote seismometers, and the like, maintained by individual countries. Hoeber, *supra* note 21, at 18; see also Schear, *National Methods of Treaty Verification and the Role of Third Countries: Compatibility or Conflict?*, 7 ARMS CONTROL NO. 1 3-16 (1986). Several existing arms control agreements have included nearly identical language regarding NTM, authorizing its use and prohibiting interference with it. See Interim Agreement on Limitation of Strategic Offensive Arms, U.S.-U.S.S.R., May 26, 1972, art. V, reprinted in 11 I.L.M. 791 (1972) [hereinafter SALT I Interim Agreement]; ABM Treaty, *supra* note 87, art. XII; Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles, Dec. 8, 1987, U.S.-U.S.S.R., art. XII, reprinted in 27 I.L.M. 84 (1988) [hereinafter INF Treaty]. The current rolling text of the CW convention reflects uncertainty about the role of NTM in verification of a chemical weapons pact, with the possibility that no language on point will be included. See Report of the Ad Hoc Committee, *supra* note 6, at 24; see also Hoeber, *supra* note 21, at 18-19 (NTM are not likely to be very useful in monitoring compliance with CW treaty; more intrusive inspection is necessary). Trapp & Rehak, *Principal Objectives to Verification Methods and Results*, in SIPRI CHEMICAL & BIOLOGICAL WARFARE STUD. NO. 9, at 14-30 (1988).

97. National declarations of chemical weapons and of CW production facilities would not, of course, be treated as absolutely reliable verification tools; other states would need to confirm the accuracy of the figures reported. But arms control negotiators have come to recognize the value of these types of national declarations as an important adjunct to the other verification systems, easing the task of independent monitoring and complicating the possible evasion plans of any potential violator. See INF Treaty, Memorandum of Understanding, 27 I.L.M.

and throughout its term, of the stockpiles of CW⁹⁸ and the CW production facilities⁹⁹ maintained by each party. Each party is also to propound a plan for verifiably destroying the prohibited items, starting no less than one year after the treaty enters into force, and being completed no more than nine years later.¹⁰⁰ Each party is permitted to engage in chemical activities, without limit, that are not weapons-related,¹⁰¹ and there are provisions for two types of on-site inspections (OSI) to ensure that no diversion can occur from peaceful to weapons purposes.

The first type of OSI, called "systematic" inspections, will begin at the outset of the treaty regime, with each party affording access to all its chemical weapons and CW production facilities, for the purposes of confirming the accuracy of its initial declarations and of monitoring the dis-

98 (incorporating data exchanged by the United States and the Soviet Union regarding their stockpiles of intermediate-range nuclear missiles at the outset of the treaty regime).

98. Report of the Ad Hoc Committee, *supra* note 6, art. III, para. 1(a); art. VI, para. 4. The declaration is to specify the location, aggregate quantity, and detailed inventory of its CW stockpiles. *Id.* at art. IV, para. 2; annex to art. IV. Thereafter, each party is to provide annual information concerning the destruction of its CW. *Id.* art. IV, para. 4.

99. *Id.* art. III, para. 1(b); art. V, para. 4 and annex to art. V. Upon entry into force of the treaty, each party is to cease all activity at each chemical weapons production facility, except that required for closure, and no new CW production facilities may be constructed. *Id.* art. V, para. 2-3.

Recently, President Bush proposed that the United States retain the right to continue to produce new binary chemical weapons for several years after the new convention comes into force. This proposal has not been well-received internationally, and some authorities believe that it will undercut the effort to make progress in the negotiations. *Bush Keeps Option to Make Poison Gas*, N.Y. Times, Oct. 15, 1989, at A20, col. 1.

100. Report of the Ad Hoc Committee, *supra* note 6, art. IV, annex to art. IV (destroying chemical weapons); art. V, and annex to art. V (destroying CW production facilities). Each party will be permitted to retain a single small-scale facility to produce agents that could be used in conducting research into CW defenses. *Id.* annex to art. VI(1), General Provisions, Single Small-Scale Production Facility.

President Bush recently proposed that the United States and the Soviet Union agree to reduce their CW arsenals by as much as 80% during the negotiations, and that they destroy 98% of their respective stockpiles within eight years after the treaty enters into force. *Neutralizing Poison Gas*, N.Y. Times, Sept. 26, 1989, at 1, col. 5. Bush tied the elimination of the remaining 2% to the acceptance of the treaty by "all nations capable of building chemical weapons." Feinstein, *Bush U.N. Speech on Chemicals Draws Mixed Reactions*, 19 ARMS CONTROL TODAY, No. 8, at 28 (1989). Critics have noted that the first of those proposed cuts (reducing existing stockpiles even prior to conclusion of a treaty) is already a statutory requirement for the United States. *Id.*

101. Report of the Ad Hoc Committee, *supra* note 6, art. VI; art. II, para. 3. The authorization to continue to engage in nonweapons-related chemical activities — including activities that use toxic chemicals that could be adapted to weapons purposes — is, in some ways, the centerpiece of the treaty and the focus of its verification provisions. The treaty notes that it is to be implemented

in a manner designed in so far as possible to avoid hampering the economic or technological development of parties to the Convention and international co-operation in the field of peaceful chemical activities including the international exchange of scientific and technical information and chemicals and equipment for the production, processing or use of chemicals for peaceful purposes in accordance with the provisions of the Convention.

Id. art. VI, para. 8.

Long Arms and Chemical Arms

mantling and destruction process.¹⁰² The second type of inspections, to be initiated upon a "challenge" or inquiry by a party having doubts about another party's compliance, has yet to be fully worked out in the negotiations.¹⁰³ Probably, the final version of the treaty would permit a concerned party to raise questions about any ambiguous situation with another state,¹⁰⁴ to engage in consultations to attempt to resolve the matter,¹⁰⁵ and then to request an OSI.¹⁰⁶ The requested state would be obligated (perhaps with some exceptions) to permit the inspection, to admit the inspectors to the troublesome facility within a very few hours,¹⁰⁷ and to provide them full access to the site for the conduct of their mission.¹⁰⁸ Many questions remain, however, regarding the scope and depth of the right to conduct challenge on-site inspections under the draft convention, and regarding the possible right to refuse a request for inspection.¹⁰⁹

102. Report of the Ad Hoc Committee, *supra* note 6, art. IV, para. 3; art. V, para. 5. Access is also to be provided to facilities used to store chemical weapons and to facilities used to destroy them. The inspections may be accomplished by a continuous presence of inspectors and continuous monitoring with on-site instruments. Inspections may make use of technical sensors, tamper-detecting apparatus, and data-authentication devices, and are to enjoy unimpeded access to all parts of the facility. *Id.* art. IV, para. 6 and art. 5, para. 6; annex to art. IV; annex to art. V.

103. The Conference on Disarmament has not concluded its work on the provisions for challenge OSIs, and the rolling text does not include the relevant articles. The Report of the Ad Hoc Committee, *supra* note 6, app. II contains a paper representing the current state of the negotiations on the subject, as seen by the chairs of the relevant committees. It does not constitute "agreement" among the delegations, and is therefore less authoritative than the rolling text, but it does reflect the progress registered to date.

104. *Id.* at 141.

105. The burden of proof would be on the requested state to demonstrate its innocence, not on the requesting state to demonstrate that there had been a violation: "Throughout the inspection the requested State has the right and is under the obligation to demonstrate its compliance with the Convention." *Id.*

106. The request is filed with the Head of the Technical Secretariat, who then communicates it to all the members of the Executive Council. *Id.* app. II, at 141.

107. A time span of 24-48 hours from the request to the arrival of the inspectors has been discussed. *Id.* at n.1.

108. *Id.* at 142.

109. The CD negotiators contemplate that the inspection regime, for both systematic and challenge OSIs, will be vigorous and detailed. See J. BOULDEN, *supra* note 10, at 12-22.

Some states have conducted practice OSIs, to test methodology and equipment with a view to perfecting the inspection algorithms prior to entry into force of the treaty. These "National Trial Inspections" and "Practice Challenge Inspections" have been used by the CD to elaborate agreed criteria as a template for future inspections. See Freeman & Mathews, *Verification of Non-production of Chemical Weapons and Their Precursors by the Civilian Chemical Industry*, in SIPRI CHEMICAL & BIOLOGICAL WARFARE STUD. NO. 9, at 45 (1988) (Australia); ter Haar, *An Experimental Inspection of a Multi-purpose Plant*, in *id.* at 53 (Holland); Jeschke & Stock, *Report on the Visit to VEB Synthesewerk, Schwarzheide, GDR, During the 12th Workshop of the Pugwash Study Group on Chemical Warfare in 1987*, in *id.* at 62 (East Germany). The United States and the Soviet Union have recently concluded an agreement for a two-phase bilateral verification experiment and data exchange, leading to practice on-site inspections in 1990. Memorandum of Understanding Between the Government of the Union of Soviet Socialist Republics and the Government of the United States of America Regarding a Bilateral

The negotiations are now proceeding in the Conference on Disarmament — with prodding from the United Nations¹¹⁰ — sequentially dealing with outstanding issues as they appear ripe for resolution. President Bush has repeatedly declared CW to be one of his personal priorities,¹¹¹ stating that he would like to be remembered as the president who solved the problem of chemical weapons.¹¹² Similarly, CW negotiations have become a regular topic for discussions at the highest levels in United States-Soviet Union “summit meetings,” and the leaders of both countries have underscored their joint commitment to a successful conclusion of the negotiations.¹¹³ Congress, too, has endorsed the negotiations and called for vigorous action on the problem of chemical weapons.¹¹⁴ It remains to be seen whether, and when, these good intentions will be translated into a signed agreement, but the issue of CW now appears substantially closer to the “front burner” of arms control than it has usually been placed.

Verification Experiment and Data Exchange Related to Prohibition of Chemical Weapons, Sept. 23, 1989, *reprinted in* 19 ARMS CONTROL TODAY NO. 8, Oct. 1989, at 23-24.

110. On November 30, 1987, the United Nations General Assembly adopted two resolutions regarding CW. *See supra* note 72. Similar measures were adopted in 1988. *See* 1988 U.N. DISARMAMENT Y.B., *supra* note 5, at 285-88 (G.A. Res. 43/74A and 43/74C).

111. Ironically, as Vice President, George Bush was called upon three times to cast the tie-breaking vote in the United States Senate to permit the production of chemical weapons at the new facility in Pine Bluff, Arkansas. *See* 129 CONG. REC. 18,968 (July 13, 1983); 129 CONG. REC. 31,350 (Nov. 8, 1983); 132 CONG. REC. S10,686 (Aug. 7, 1986). He thus cast more votes in favor of CW than he did on any other single issue.

More recently, Bush used the occasion of his first address as President to the United Nations General Assembly to underscore the need to reach agreement on a CW treaty. *Neutralizing Poison Gas*, N.Y. Times, Sept. 26, 1989, at 1, col. 3.

112. *See* Isaacs, *The Bush Administration, the Senate, and the Chemical Treaty*, CHEMICAL WEAPONS CONVENTION BULL. NO. 3, Feb. 1989, at 1-2; *Hearings on Global Spread*, *supra* note 3, at 6 (testimony of Frank Gaffney).

113. *See, e.g., Excerpts from U.S.-Soviet Declaration: “Considerable Progress on Arms,”* N.Y. Times, Dec. 12, 1987, at 10, col. 1; Joint Statement by the United States and the Soviet Union on the Geneva Summit Meeting (Nov. 21, 1985), *reprinted in* UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY, DOCUMENTS ON DISARMAMENT 1985, at 866, 869 (1989).

In addition, the members of the NATO alliance have underscored their joint support for international regulation of chemical weapons. NATO Report, Adopted by Heads of State and Government, North Atlantic Council Meeting, Brussels, May 30, 1989, *reprinted in* U.S. DEP’T OF STATE, THE NATO SUMMIT: 40 YEARS OF SUCCESS, SELECTED DOCUMENTS NO. 37, para. 57.

114. Isaacs, *The Bush Administration, the Senate, and the Chemical Treaty*, CHEMICAL WEAPONS CONVENTION BULLETIN NO. 3, Feb. 1989, at 3; Letter by Several Senators to the President (Oct. 5, 1988), *reprinted in* 135 CONG. REC. S9 (daily ed. Jan. 3, 1989); *see also New Threat: Poison-Tipped Missiles*, N.Y. Times, Mar. 29, 1989, at 23, col. 1 (members of Congress expressing concerns about spread of chemical weapons).

D. *The Difficulties of Chemical Weapons Arms Control*

In most modern arms control efforts, the actual “ban” portions of the agreement — the sections of the treaty that specify what arms are to be restricted or eliminated — are relatively easy to write and to negotiate.¹¹⁵ The thorniest problems are to be found instead in the verification apparatus — the system for ensuring that each party is complying with its basic obligations, and that no one is being disadvantaged by another side’s surreptitious cheating.¹¹⁶

In the case of chemical weapons, the verification challenge is even more severe than usual, for three reasons. First, the weapons themselves have special characteristics that are highly problematic for arms control purposes. They are small (extremely lethal doses of a chemical weapon could be fit into a suitcase)¹¹⁷ and mobile,¹¹⁸ making it difficult to monitor the weaponry¹¹⁹ and hard to be confident that the inspectors had

115. In the case of the United States-Soviet Union negotiations over strategic nuclear arms, for example, one participant has written that “[i]t would not be an exaggeration to say that of the seven years spent on SALT II, something like 80 to 85 percent of the effort was expended on negotiating appropriate verification limits.” GROUND ZERO, WHAT ABOUT THE RUSSIANS — AND NUCLEAR WAR? 189 (1983).

116. No state is willing to rely solely upon blind “trust” where national security is at stake, and the negotiations over verification provisions often produce the most important and the most controversial aspects of the treaty. Meyer, *Verification and Risk in Arms Control*, 8 INT’L SECURITY NO. 4 111-26 (1984); *Negotiating the Arms Treaty: Verification Issue Proved Thorny*, N.Y. Times, Jan. 28, 1988, at A8, col. 1; see also United Kingdom of Great Britain and Northern Ireland, Verification of Non-Production of Chemical Weapons, paper submitted to Committee on Disarmament, CD/353 (Mar. 8, 1983), at 1, reprinted in 2 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 74, at 37 (United Kingdom believes that “[i]t has become increasingly clear that the key to agreement on a chemical weapons convention is the elaboration of a sound verification regime which will generate confidence that States Parties are complying with provisions of the convention”).

117. The possibilities for covert storage, movement and use of lethal chemicals will vary considerably in different scenarios. Terrorists, for example, might attempt to smuggle compact chemical agents into a target area through low-technology means such as a suitcase. Any militarily-significant strategies involving CW use by a government, however, would have to be undertaken on a far larger scale, much harder to conceal. At the same time, most CW delivery systems (with the exception of spray tanks) are dual purpose — they can be used to fire conventional high explosive devices as well as CW agents, and they are far more commonly associated with the former, so their retention would not be unequivocal evidence of a CW capability. ASPEN STRATEGY GROUP AND EUROPEAN STRATEGY GROUP, CHEMICAL WEAPONS AND WESTERN SECURITY POLICY 33-34 (1987). Even for these ubiquitous weapons, however, the CW infrastructure (the special logistics required for handling such toxic substances) would be a telltale sign, and military intelligence systems would therefore concentrate on efforts to detect the unique support systems.

118. One should not overstate the ease of mobility of chemical weapons. Any prudent system for handling such dangerous substances will require multiple layers and kinds of protections, and these will inevitably make the transportation and storage more cumbersome and harder to conceal.

119. See *supra* note 37 and accompanying text (describing new generation of “binary” chemical weapons, which could further exacerbate verification difficulties, since relatively harmless precursor chemicals would be produced and stored separately, and the lethal mixture would not be formed until weapon was already in flight toward its target).

detected and followed all the existing stockpiles.¹²⁰ In addition, chemical weapons are relatively easy and inexpensive to manufacture, not requiring substantial capital, rare technology, unique facilities or many special materials.¹²¹ The treaty's monitoring mechanisms — declarations, inspections and the like — will therefore have to be unusually robust.

Second, chemical weapons, and the capacity and materials to produce them, have already proliferated to several countries,¹²² meaning that any international control measures must be adapted to the very different political, economic and legal systems of a wide range of developed and developing states.¹²³ In contrast, the nuclear weapons genie is not yet fully out of the bottle; only a handful of countries are known to possess nuclear devices,¹²⁴ and an overwhelming percentage of the world's nuclear weaponry is still commanded by just the two superpowers.¹²⁵ As the capacity for CW spreads even further, the diversity of demands upon the new treaty's verification system is sure to become even more profound, while its international application must be even more pervasive.¹²⁶

120. Most chemical warfare agents have very long shelf lives, and any covert stockpiles could remain useable for decades. See REPORT OF THE STOESSEL COMMISSION, *supra* note 35, at 20.

121. Livingstone & Douglass, *supra* note 44, at 7-11. But see Ezz, *The Chemical Industry in the Developing Countries and the Projected Chemical Weapons Convention*, in 2 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 74, at 84 (clandestine production of CW would generally be difficult to conceal, because most civilian chemical facilities — even those manufacturing hazardous materials such as insecticides or herbicides — were not designed and constructed to be safe enough to adapt to CW production).

122. See *supra* note 46 and accompanying text (extent of CW proliferation).

123. See Ezz, *supra* note 121, at 85-86. Previous efforts at multilateral arms control have proven immensely frustrating, as the negotiators wrestle with the very different interests and demands of dissimilar societies, each with its own peculiar agenda of concerns to pursue. See Neidle, *The Rise and Fall of Multilateral Arms Control: Choices for the United States*, in ARMS CONTROL: THE MULTILATERAL ALTERNATIVE 7, 17-19 (E. Luck ed. 1983). The difficulties of fashioning a multilateral CW accord have given rise to the suggestion that the superpowers might first usefully negotiate a strictly bilateral treaty, applicable only as between the two of them, and defer the problem of meshing bilateral and multilateral issues. N. SIMS, *supra* note 5, at 107.

124. See L. SPECTOR, NUCLEAR PROLIFERATION TODAY 5 (1984).

125. R. SIVARD, WORLD MILITARY AND SOCIAL EXPENDITURES 1987-88 16 (12th ed. 1988); see also CONG. RESEARCH SERVICE, *supra* note 3, at 48; Watson, *Winds of Death*, NEWSWEEK, Jan. 16, 1989, at 25; Gupta, *supra* note 71, at 11 (comparing prospects for control of nuclear and chemical weapons).

126. The leading international inspection regime for the control of nuclear weapons is administered by the International Atomic Energy Agency (IAEA), and is often considered a rough prototype for the inspections that might occur under a chemical weapons convention. von Baeckmann, *The Chemical Weapons Convention and Some IAEA Experiences*, in SIPRI CHEMICAL & BIOLOGICAL WARFARE STUD. NO. 9 175 (1988). See generally J. KEELEY, INTERNATIONAL ATOMIC ENERGY SAFEGUARDS: OBSERVATIONS ON LESSONS FOR VERIFYING A CHEMICAL WEAPONS CONVENTION (Arms Control and Disarmament Division, Department of External Affairs, Canada, Arms Control Verification Occasional Papers No. 1, 1989). There is, however, substantial controversy concerning the effectiveness of the IAEA

Third, and most important, the problem of verifying a potential chemical weapons treaty is confounded by the reality of multiple applications of the basic chemicals themselves: many of the same substances that are used for making chemical weapons are also used in enormous quantities for a dizzying array of important industrial purposes in the United States and elsewhere. Moreover, the facilities employed to manufacture or to process chemical weapons may, in many instances, be readily converted to a variety of civilian commercial purposes — and just as easily converted back to weapons production.¹²⁷ By comparison, nuclear weapons seem relatively amenable to government or international regulation: there are few civilian uses for plutonium, uranium or other “special nuclear materials”; all the nonweapon demands for fissionable matter are controlled or highly regulated by governments; and it is relatively easy to maintain close scrutiny over all the radioactive materials.

In contrast, none of those felicitous circumstances obtains in the case of chemical weapons. Many of the chemicals that are currently considered most effective in weapons are also highly popular in diverse sectors of the civilian economy,¹²⁸ with applications in pesticides, fertilizers, pharmaceuticals, plastics and paints.¹²⁹ A huge number of privately owned commercial establishments of varying size and function can produce, process, or consume chemicals of all sorts, including many that are simultaneously useful (or potentially useful) for weapons purposes.¹³⁰

system, with many critics identifying shortcomings in the legal rights of the inspectors and the staffing of the agency. *How Iraq Nearly Got the Bomb*, Wash. Times, May 30, 1983, at 2C, col. 1; *IAEA: Too Few Inspectors and Too Little Money*, Christian Sci. Monitor, Feb. 25, 1983, at 13, col. 3.

127. See *Hearings on Global Spread*, *supra* note 3, at 3 (statement of Frank J. Gaffney). But see *CMA's Olson Unravels Intricacies of Verifying a Chemical Arms Treaty*, CHEMICAL & ENGINEERING NEWS, Apr. 24, 1989, at 7-12 (not clear that existing chemical production facilities could be easily and secretly converted to weapons production and back to civilian activities); G. Burck, *Chemical Weapons Production Technology* (July 21, 1989) (unpublished paper) (substantial difficulties in attempting to convert from production of ordinary civilian chemicals into production of CW; special materials and equipment would be required, and these could be readily identified).

128. Ethylene, for example, is perhaps the most basic industrial chemical in the world, with an annual global production over 50 million tons. It is used to make plastics and other common chemical products, but is also a possible precursor of mustard gas. Any attempt to regulate, or even to monitor, production of ethylene (or of hydrogen chloride, another common dual-purpose chemical) would be daunting. Burstall, *The Industrial Context of Chemical Warfare*, in 1 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 5, at 39.

129. Storella, *supra* note 39, at 16. See also 1 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 5, at 19-20; *Nerve Gases and Pesticides: Links Are Close*, N.Y. Times, Mar. 30, 1984, at A7, col. 1.

130. The equipment and facilities that produce chemical weapons are also themselves dual-capable, being used, or adaptable, for a variety of legitimate civilian purposes as well as CW production. See Thatcher & Aeppel, *The Poisons Spread*, *supra* note 46, at B2, col. 1 (quoting General Howard Eggleston, head of the United States Army's Space and Special Weapons Directorate, as saying “[e]very pharmaceutical plant, every brewery, every fertilizer

These private facilities — some estimate that the treaty will have to apply its verification measures to over 30,000 private production facilities around the world¹³¹ — include many that have no connection whatsoever to government¹³² (and hence, no particular reason to be apprised of the development of a draft CW treaty), but whose activities may be impacted in important ways.¹³³ They produce and consume an immense quantity of chemicals annually,¹³⁴ and their record-keeping and inspection operations are already voluminous.¹³⁵ The private industry that is

plant is potentially a chemical weapons plant"); see also J. BOULDEN, *supra* note 10, at 16 ("History has shown that most chemical weapons agents have been developed through discoveries made in private industry rather than in research-specific government laboratories."). But see G. Burck, *supra* note 127 (there are substantial differences, readily observable, between plants designed to produce ordinary commercial products and plants designed to produce militarily significant quantities of CW).

131. 135 Cong. Rec. H4390 (daily ed. July 27, 1989) (statement of Rep. Porter).

132. Originally, the United States 1984 draft CW treaty appeared to confine the inspection provisions to only those facilities that were owned by a government. The Soviet Union protested that this limitation would create an unacceptable asymmetry: virtually all chemical facilities in a socialist state such as the U.S.S.R. would come under its reach, while many of the most important comparable facilities in a capitalist state like the United States would escape controls. The American delegation then clarified the proposal, specifying that it would cover privately held facilities, too. *U.S. Clarifies Stand on Chemical Pact*, Wash. Post, May 1, 1984, at A12.

133. CW negotiators have recognized that the chemical industry has an especially important stake in the outcome of the treaty negotiations, and have sought to enlist the participation of nongovernmental commercial experts in molding the draft convention. See 1 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 5, at vi.

In the United States, the Chemical Manufacturers Association (CMA) has been active in CW treaty negotiations for a decade, providing expert advice concerning the practical ramifications of the proposed verification provisions, and recently adopting an official policy of organizational support for the draft convention. See Olson, *The Proposed Chemical Weapons Convention: An Industry Perspective*, CHEMICAL WEAPONS CONVENTION BULL. No. 2, Autumn 1988, at 1; Ember, *Global Chemical Experts Offer Advice for Chemical Weapons Treaty*, 65 CHEMICAL & ENGINEERING NEWS, July 27, 1987, at 16-17. The CMA has also attempted to consult and coordinate with its counterpart trade associations in other chemical exporting states. *Hearing before the Senate Committee on Governmental Affairs, on Export Controls over Chemical/Biological Weapon Materials: Organizational Challenges for the 1990's*, 101st Cong., 1st Sess. (1989) (photocopied set of materials) [hereinafter *Glenn Hearings*]. The CMA, however, is the spokesperson only for chemical producers, and may therefore not be able to represent the interests of other potentially affected industries, such as the users of pharmaceuticals or agricultural products. See also Dickson, *supra* note 4, at 23 (leading international association of chemical producers, the Brussels-based European Confederation of Chemical Industry Associations (CEFIC), has recently declared that current draft convention would be "unacceptable" due to intrusiveness of contemplated inspection regime).

134. The United States chemical and allied industry shipped \$239.7 billion worth of materials in 1988, of which 13.5% were exported, generating a trade surplus of \$12 billion for the United States. *Glenn Hearings*, *supra* note 133, at 3 (testimony of Max Turnipseed); *Hearings on Proliferation*, *supra* note 4 (statement of Joan McEntee, at 3).

One source has estimated that of more than six million known chemicals, 60,000-70,000 are in common use, and 500-1,000 new chemicals come onto the market each year. Vojvodic & Minic, *Civil Industry and Permitted Activities in Production of Lethal and Other Harmful Chemicals*, in 2 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 74, at 203.

135. W. Carpenter, *Implementing Global Chemical Weapons Disarmament: Chemical Industry Perspective* (remarks to American Association for the Advancement of Science, Jan.

potentially relevant to the verification provisions and other constraints of a CW treaty, in short, is huge and diverse,¹³⁶ dwarfing any government's own participation in chemical production and far outstripping the magnitude of any prior arms control monitoring structures.¹³⁷

Not only is this commercial chemical operation economically large and diverse, it is also subject to rapid technological change.¹³⁸ Innovation is vitally important to the chemical community, with new products and new processes introduced regularly; the unpredictability of the future directions of these enterprises is an important characteristic, strongly tied to their market competitiveness.¹³⁹ Also related is the importance of secrecy: there is a great perceived need to protect novel formulas and processes.¹⁴⁰ Preservation of trade secrets is a high priority

16, 1989) [hereinafter Carpenter, Implementing Disarmament]. In the United States and many other countries, each firm in the chemical industry is required to file a huge quantity of different types of reports, regarding production, toxicity, safety, pollution and the like. Much of this information includes closely guarded industrial secrets concerning production processes and formulae. The quantity of information and the format of the reporting vary dramatically from country to country. 1 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 5, at 6-10; Akiyama, *Regulatory Procedures on Chemicals in the Japanese Chemical Industry*, in 2 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 74, at 1-9 (describing regulatory scheme in Japan); Carpenter, *Government Regulation of Chemical Manufacturing in the USA as a Basis for Surveillance of Compliance with the Projected Chemical Weapons Convention*, in 2 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 74, at 11-32 (describing government controls applicable to one typical American chemical plant) [hereinafter Carpenter, *Government Regulation*]. In addition, the chemical industry in most states is already subject to a variety of inspection programs. 1 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 5, at 12; Carpenter, Implementing Disarmament, *supra*.

136. Chemical manufacturing plants account for 10 per cent of the total value added in United States manufacturing. B. Gelb, U.S. Chemicals Manufacturing: Status, Issues, and Prospects (Congressional Research Service Report 88-387 E, May 26, 1988), at 1. Chemical producers are distributed all across the United States, with no state having fewer than 25 facilities. *Id.* at 2.

137. In the case of the INF Treaty, for example — which has incorporated by far the most ambitious arms control verification system implemented to date — the United States and Soviet Union are conducting hundreds of on-site inspections inside each other's territory. Most of these, however, take place at government-owned or government-operated facilities, where the procedural and practical problems are muted. Connolly, *Warrantless On-Site Inspections for Arms Control Verification: Are They Constitutional?*, 24 STAN. J. INT'L L. 179 (1987). In the one instance of intense, long-duration inspection of a private facility (at the Hercules Plant at Magna, Utah), the task of arranging the logistics for enabling and sustaining the inspections has proven laborious and expensive. Emerson, *Getting Ready for Soviet Spies*, U.S. NEWS & WORLD REP., June 27, 1988, at 24-25; *The Russians Are Coming to Inspect, and Missile Maker Is Up in Arms*, Wash. Post, June 1, 1988, at A29, col. 1.

138. See *Hearings on Global Spread*, *supra* note 3 (statement of Brad Roberts, at 38) (summarizing multiple effects of technological change on CW).

139. Burstall, *supra* note 128, at 36 (chemical industry is research-intensive, with some sectors devoting 10% or more of sales revenue to research into new products).

140. 1 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 5, at 30; Carpenter, *Government Regulation*, *supra* note 135, at 22-23. Many segments of the chemical industry (at least in the market economies) jealously guard both the intellectual property of their production processes and the commercial secrecy of customer lists and the like, which arms control inspectors might seek. 1 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 5, at 30;

for the chemical industry, and many private firms are both extremely hostile to outside snooping and suspicious of governmental abilities to preserve their vital commercial confidences from the prying of competitors.¹⁴¹

Finally, many participants in the civil chemical industry are transnational in their activities, providing another important new wrinkle that arms control has not previously had to confront. An American-incorporated business may own a chemical factory operating inside country X; it may also own a subsidiary incorporated in country Y which itself operates some type of chemical-related facility inside Y or inside country Z.¹⁴² Conversely, a foreign corporation may engage in chemical activities inside the United States, either directly or via an American-incorporated affiliate or subsidiary.¹⁴³ Chemicals (raw materials or processed goods) readily flow internationally, and the resulting proceeds or profits also cross boundaries. Control (legal or financial, *de facto* or *de jure*)

Hoffmann, *Some Aspects of Verification from the Viewpoint of the Chemical Industry of the Federal Republic of Germany*, in 2 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 74, at 97-104 (a precondition for the control measures of a CW treaty must be some mechanism for ensuring that restrictions do not impede technological progress or compromise the competitiveness of industry by reducing the protection for trade secrets).

141. See *The Spy in the Ointment for Negotiators*, NEW SCIENTIST, Jan. 14, 1989, at 27 (importance of avoiding industrial espionage was underlined by Dutch expert, saying, "[o]ne chemicals company in the US said that it was not too bothered with Soviet inspections, but told us to please keep the Germans and the Japanese away").

For a discussion of a noteworthy example of a chemical company devoting substantial resources to security measures designed to thwart industrial espionage, see *Dow Chemical Co. v. United States*, 536 F. Supp. 1355, 1364-65 (E.D. Mich. 1982), *rev'd.*, 749 F.2d 307 (6th Cir. 1984), *aff'd.*, 476 U.S. 227 (1986).

142. See Ezz, *supra* note 121, at 88-89 (danger of circumventing CW treaty, where multinational chemical enterprise could use its plant inside developing country for purpose of clandestine production of CW for benefit of third party); *India Seen as Key on Chemical Arms*, N.Y. Times, July 10, 1989, at A1, col. 3 (chemical companies in India have sold tons of materials, potentially useful for CW, to Iran, Iraq and Egypt.)

The chemical industry in most developing states is relatively small, and most often is dominated by foreign corporations. It typically concentrates on the production of a narrow range of specialty products, using imported technology and equipment. 1 SIPRI/PUGWASH CONFERENCE PROCEEDINGS, *supra* note 5, at 9; Ezz, *supra* note 121, at 85-87. The international chemical market is dominated by a small number of very large firms, based in France, West Germany, Japan, Switzerland, the United Kingdom and the United States. Burstall, *supra* note 128, at 37.

143. Foreign-owned companies account for an estimated 30 percent of total United States chemical shipments and 40 percent of the industry's American employment. Gelb, *supra* note 136, at 6-7.

As with much of the rest of international trade, the cross-border traffic in chemicals has become increasingly complex, with financial intermediaries and deal-making firms facilitating the trading — making it difficult for individual nations to police the activities. See Thatcher & Aeppel, *The Poisons Spread*, *supra* note 46, at B12, col. 4.

over the activities of the corporation's various far-flung entities may be concentrated or internationally diffuse.¹⁴⁴

Overall, the challenge for CW arms control — unique in the sector of national security policy — will be to develop a system for the effective regulation of the weapons capability of the chemical industry in a fashion that does not unduly inhibit the commercial operations of this important, dynamic segment of the international economy. A method must be devised for accomodating not only the demands for intrusive government inspection for arms control verification but also the requirements of freedom and confidentiality for the chemical and allied industry.¹⁴⁵

III. The Law of Extraterritoriality

Modern international law has so far been successful in developing only an incomplete mechanism for understanding the competing claims of authority to control activities that transcend national boundaries.¹⁴⁶ This section discusses three aspects of the law of extraterritoriality: first, the different types of jurisdiction which countries might assert in relation to chemical weapons arms control; second, the alternative bases that have become recognized as being at least partially legitimate for claiming such jurisdiction; and third, the largely inchoate international law applicable to reconciling conflicts of asserted jurisdiction.

144. In most instances, the chemical companies may not be aware that their products (equipment, technology, chemicals) are being diverted by purchasing countries into weapons purposes; but in other instances, the chemical manufacturers are a knowing and deliberate part of the problem. See *Chemical Weapons Proliferation Spurred by Business, Panel Says*, Wash. Times, May 10, 1985, at A 4, col. 1.

145. This article concentrates on the overseas operations of the private chemical industry. Any governmental chemical-related facilities that operate inside foreign states (e.g., chemical weapons storage depots) would ordinarily be covered by basing agreements or other government-to-government understandings that spell out the states' respective rights and responsibilities with respect to proceedings such as the verification arrangements of a CW treaty. If additional inspection rights were necessary in order to implement a new inspection regime, additional treaties could be negotiated, as was accomplished in the context of the INF treaty, which provided for inspections inside European states that housed American and Soviet nuclear forces. Agreement Regarding Inspections Relating to the Treaty of December 8, 1987 between the U.S. and the U.S.S.R. on the Elimination of their Intermediate-range and Shorter-range Missiles, Dec. 11, 1987, 27 I.L.M. 58 (1988).

146. D. ROSENTHAL & W. KNIGHTON, *supra* note 12, at viii (extraterritoriality is low-visibility issue, tending to be dealt with on ad hoc basis when crises arise); see also K. Dam, Extraterritoriality and Conflicts of Jurisdiction, address to American Society of International Law, (Apr. 15, 1983), reprinted in 83 DEP'T ST. BULL., June 1983, at 48 (extraterritoriality is ancient problem, antedating nation-state); Wallace, *Extraterritorial Jurisdiction*, 15 LAW & POL. INT'L BUS. 1099 (1983) (international law is thin in dealing with extraterritoriality).

A. *Types of Jurisdiction*

International law has traditionally differentiated two types of state jurisdiction:¹⁴⁷ jurisdiction to prescribe (that is, to create substantive rules of law applicable to particular persons or actions)¹⁴⁸ and jurisdiction to enforce (that is, to apply those substantive rules to actual cases or circumstances).¹⁴⁹

The two types of jurisdiction frequently overlap, and a state may lawfully invoke jurisdiction to enforce its law only when it also possesses valid jurisdiction to prescribe the standard in question. That is, if the state has no power to *make* a rule of law to govern a particular situation, then it can have no power to *apply* that rule.¹⁵⁰ There are numerous types of circumstances in which the two types of jurisdiction may diverge, and the framers of a CW convention will have to consider both categories. Indeed, the classic international confrontations regarding the transnational application of various types of national "longarm" laws or choice-of-law rules often concern precisely this problem of meshing competing states' claims to prescribe and to enforce conflicting laws.¹⁵¹

147. RESTATEMENT (THIRD), *Introductory Note, Part IV*, at 230; Note, *Extraterritorial Jurisdiction Under the Third Restatement of Foreign Relations Law of the United States*, 12 FORD. INT'L L.J. 127, 129-30 (1988). The new Restatement itself, however, departs from this tradition, by identifying three separate categories of jurisdiction: to prescribe, to adjudicate, and to enforce. RESTATEMENT (THIRD) at 231. All three of these "aspects of jurisdiction" concern types of limitations upon a state's lawful authority to subject foreign persons or interests to its own control. *Id.* § 401 comment a.

148. Jurisdiction to prescribe involves the rule-making function of a state, and is most closely associated with the operation of a legislature; it has sometimes, therefore, been referred to as "legislative jurisdiction." Many of the rules that might have transnational reach, however, are propounded by executive or administrative agencies, and the broader term "jurisdiction to prescribe" is therefore preferable. RESTATEMENT (THIRD) at 230.

149. The concept of "jurisdiction to enforce" here includes the competence of both judicial and executive organs; it addresses the total legal authority of a state to extend its coercive powers in order to apply its rules to transnational individuals and events. *Id.* at 231.

150. *Id.* § 431; *United States v. Keller*, 451 F. Supp. 631 (D.P.R. 1978) (no jurisdiction to enforce unless also jurisdiction to prescribe). State X may, however, voluntarily cooperate in state Y's enforcement processes, assisting Y's judicial or executive officials in the transnational assertion of their proceedings, even where X would not have any jurisdiction itself to directly regulate the persons and activities in question. Numerous international agreements have been effectuated to promote this type of collaboration. RESTATEMENT (THIRD), *Introductory Note, Part IV, ch. 7*, at 526.

151. See *infra* text accompanying notes 206-28; see also RESTATEMENT (THIRD) at 236. A "longarm" statute essentially concerns the assertion of jurisdiction to adjudicate; it is here considered to be one aspect of jurisdiction to enforce.

Within any particular state, conflicts between domestic and international law will be resolved according to local supremacy provisions, but the international system will still recognize the priority of the international rules. See *Leasco Data Processing Equipment Corp. v. Maxwell*, 468 F.2d 1326, 1333-34 (2d Cir. 1972) (for purposes of United States jurisprudence, international law is on par with ordinary legislation; if Congress intended to assert United States jurisdiction in situation where international law did not permit, United States court would be obligated to apply statute and violate international law norm); *Zenith Radio Corp. v.*

B. *Bases of Jurisdiction to Prescribe*

Underlying the two “types” of jurisdiction are several more-or-less recognized “bases” upon which a state may rest its assertion of authority. Six of these may be relevant to a state’s power to prescribe standards implementing a future chemical weapons convention.¹⁵²

1. *Territoriality*

The territorial basis of jurisdiction is the most widely utilized and least-problematic source of prescriptive rules.¹⁵³ Under it, a state is accorded wide latitude to prescribe rules applicable to persons and property within its national borders¹⁵⁴ and to transactions and other activities occurring there.¹⁵⁵ A chemical plant operating inside state X, for example — regardless of who owns the facility, where it sells its products, etc. — is ordinarily amenable to X’s jurisdiction to prescribe, and X may unquestionably declare a wide range of controlling standards regarding production, safety, taxation, inspections, and the like.

2. *Nationality*

International law also generally recognizes an overriding right of a state to prescribe rules for its nationals, even while they are outside its sovereign territory.¹⁵⁶ Both real and juridical persons may be governed

Matsushita Electric Industrial Co., 494 F. Supp. 1161, 1177-78 (E.D. Pa. 1980) (inquiry for court is simply whether Congress intended to apply United States law extraterritorially, not whether it was wise policy or consistent with international law to do so).

152. See generally RESTATEMENT (THIRD) § 401-88; M. JANIS, AN INTRODUCTION TO INTERNATIONAL LAW 241-49 (1988); Jennings, *Extraterritorial Jurisdiction and the United States Antitrust Laws*, 33 BRIT. Y.B. OF INT’L L. 146, 153-61 (1957). The leading international law case regarding assertion of jurisdiction supports the proposition that a state need not identify some source of lawful “permission” to exercise jurisdiction; rather, the presumption is that an assertion of jurisdiction is valid unless there is some rule of law that forbids it. The S.S. Lotus (France v. Turkey), 1927 P.C.I.J. (ser. A) No. 10 (Sept. 7, 1927).

153. Laker Airways v. Sabena, Belgian World Airlines, 731 F.2d 909, 935 (D.C. Cir. 1984); RESTATEMENT (THIRD) § 402 comment c.

154. Territorial jurisdiction to prescribe applies even to the activities of a foreign state government undertaken within the territory of the host state. The doctrine of sovereign immunity will often prohibit the subsequent assertion of jurisdiction to adjudicate or to enforce, but the power to prescribe rules is not so limited. RESTATEMENT (THIRD) § 461.

155. Although the territoriality principle is recognized as an exceptionally strong basis of jurisdiction to prescribe, it is nonetheless somewhat amorphous at its fringes (e.g., under what circumstances may a corporation or a transaction be said to be present within the national territory?) and may not be applicable in all situations (e.g., if some other state has an even stronger claim to jurisdiction). *Id.* § 402 comment c.

156. Blackmer v. United States, 284 U.S. 421, 436-38 (1932) (United States retains authority over its citizen even when he or she resides abroad); United States v. Firestone Tire & Rubber Co., 518 F. Supp. 1021 (N.D. Ohio 1981) (statute proscribing ownership of gold was intended to have extraterritorial effect, covering American nationals abroad); RESTATEMENT (THIRD) § 402(2). Many states, including the United States, do not assert jurisdiction to prescribe based on nationality to the fullest extent that international law might allow. For exam-

in this way,¹⁵⁷ and the United States has with some frequency asserted that a foreign-incorporated subsidiary is amenable to American jurisdiction where it is "owned or controlled" by a United States national.¹⁵⁸ Even more controversial has been the United States position that goods and technical data, too, may in some circumstances have a "nationality" that renders them susceptible to this basis of jurisdiction — a contention that other states have resolutely resisted.¹⁵⁹ In the case of a CW treaty, the nationality principle means that state X would usually be deemed to possess jurisdiction to prescribe rules applicable to all persons with X nationality, including chemical corporations organized under the laws of state X, even while they were living and operating abroad.

3. *Effects*

Closely related to the territoriality principle is another basis of jurisdiction that applies to activities undertaken outside the national territory of state X, but having or intended to have a sufficiently substantial effect inside the territory.¹⁶⁰ Again, this is a well-recognized,

ple, in the domestic fields of marriage, divorce, and wills, states increasingly look to the state of the individual's domicile, rather than to the state of nationality. *Id.* § 402 comment e and reporter's note 1.

157. RESTATEMENT (THIRD) § 402 comment e. Ordinarily, a corporation is deemed to be a national of the state in which it is incorporated, even if its headquarters, stockholders, and operations are elsewhere. *See Barcelona Traction, Light and Power Co., Ltd. (Belgium v. Spain)* 1970 I.C.J. 3; *Sumitomo Shoji America Inc. v. Avagliano*, 457 U.S. 176 (1982) (American-incorporated firm that was wholly-owned subsidiary of Japanese corporation considered United States, not Japanese, national).

158. *See* Marcuss & Richard, *supra* note 12, at 445 (United States has not developed consistent theory about nationality of foreign corporation owned or controlled by United States nationals); Kincannon, *The Dresser Case: One Step Too Far*, 5 N.Y.U. J. INT'L & COMP. L. 191, 210 (1984) (describing competing theories upon which nationality of a corporation is based); Merciai, *The Euro-Siberian Gas Pipeline Dispute — A Compelling Case for the Adoption of Jurisdictional Codes of Conduct*, 8 MD. J. INT'L L. & TRADE 1, 28-30 (1984) (difficulty of ascribing nationality to multinational corporations).

159. RESTATEMENT (THIRD) § 402 comment c; Marcuss & Mathias, *U.S. Foreign Policy Export Controls: Do They Pass Muster Under International Law?*, 2 INT'L TAX & BUS. L. 1, 21 (1984); Note, *Extraterritorial Application of the Export Administration Act of 1979 Under International and American Law*, 81 MICH. L. REV. 1308, 1324 (1983). International law has not generally recognized any nationality for goods or technology, apart from special categories such as ships, aircraft, or historical relics. Griffin & Calabrese, *Coping with Extraterritoriality Disputes*, 22 J. WORLD TRADE NO. 3 at 5, 18-19 (1988). Sometimes these claims over goods have been premised on the territoriality basis, arguing that the production of the goods inside state X should afford X a continuing jurisdiction to prescribe rules concerning the goods even after they leave that state. *Id.* at 19.

160. *Ford v. United States*, 273 U.S. 593, 623 (1926) (smugglers who remained outside territory of United States were nonetheless subject to criminal prosecution due to intended effects inside United States); *United States v. Wright-Barker*, 784 F.2d 161, 166 (3d Cir. 1986) (international law permitted, and Congress intended, drug smuggling legislation to cover activity undertaken outside United States as part of conspiracy to import contraband); *In re Uranium Antitrust Litigation*, 617 F.2d 1248 (7th Cir. 1980) (United States court may exercise jurisdiction over alleged conspiracy among 20 domestic and 9 foreign firms to fix worldwide and United States prices for uranium); RESTATEMENT (THIRD) § 402(1)(c). *But see* Montreal

although not invariably-dominant, basis of jurisdiction, and it allows a state to prescribe rules to cover activities in which it has a major interest even when its own national borders are not directly traversed.¹⁶¹ The potential overbreadth of an expansive reading of such effects, however, has made this particular basis of jurisdiction more controversial than the first two described above.¹⁶² An illustration of the effects principle in the CW context could be state X's ability to prescribe rules applicable to a facility located inside state Y and owned by nationals of state Y, where the facility regularly used input products bought from suppliers inside X or sold output products to customers inside X.

4. *Protective*

A special version of the effects principle applies to certain activities which are undertaken outside a state, by non-nationals, but which threaten the security of the state or the operation of its governmental functions.¹⁶³ International law acknowledges a state's right to protect its

Trading Ltd. v. Amax, Inc., 661 F.2d 864, 869-70 (10th Cir. 1981) (United States court has no jurisdiction over antitrust suit brought by Canadian corporation alleging conspiracy by Canadian subsidiaries of American firm to refuse to sell Canadian potash for delivery in Canada, where effect on United States commerce was only speculative and insubstantial); *National Bank of Canada v. Interbank Card Association*, 666 F.2d 6 (2d Cir. 1981) (United States court lacks jurisdiction over antitrust claim where no linkage was shown between activities in Canada and adverse market conditions in United States).

The effects principle is sometimes considered to be merely a special aspect of the territorial principle (in that territoriality may embrace the "object" of an action as well as the "subject" or person who performed it), Wallace, *supra* note 146, at 1102, but the better view now is to evaluate it as a distinct category. RESTATEMENT (THIRD) § 402 comment d.

161. *Lauritzen v. Larsen*, 345 U.S. 571 (1953) (United States law would not apply to injury sustained by Danish national on board Danish ship in Cuban waters, where only connection to United States was fact that seaman had signed on board ship in New York); *United States v. Aluminum Co. of America*, 148 F.2d 416 (2d Cir. 1945) (state may impose liability for conduct outside its borders that has consequences inside); *Tamari v. Bache & Co. (Lebanon), S.A.L.*, 547 F. Supp. 309 (N.D. Ill. 1982), *aff'd*, 730 F.2d 1103 (7th Cir. 1984) (United States court has jurisdiction over securities transactions conducted between aliens outside United States, when American securities market was involved); RESTATEMENT (THIRD) § 402 comment d.

162. See Jennings, *supra* note 152, at 159-61; Note, *supra* note 159, at 1327; Note, *supra* note 147, at 138-41 (noting historical debate over meaning and impact of effects doctrine). See also Dam, *supra* note 146, at 49 (effects doctrine is accepted by West Germany and others, not by United Kingdom); Joelson, *International Antitrust: Problems and Defenses*, 15 LAW & POL. INT'L BUS. 1121, 1122 (1983).

The effects doctrine may be a source of less controversy in the future, as its application is increasingly accepted by Europeans and others. See RESTATEMENT (THIRD) § 102 comment d and reporters' note 2; J. SWEENEY, C. OLIVER & N. LEECH, *CASES AND MATERIALS ON THE INTERNATIONAL LEGAL SYSTEM* 104-05 (3d. ed. 1988) (illustrating the application of the effects doctrine in the national courts of several states); Wallace, *supra* note 146, at 1103 (describing British application of effects doctrine to control overseas businesses during the Falklands war).

163. RESTATEMENT (THIRD) § 402(3); *United States v. Pizzarusso*, 388 F.2d 8 (2d Cir.), *cert. denied*, 392 U.S. 936 (1968) (protective principle allowed United States to prosecute Canadian national for false statements made inside Canada in visa application to United States

own integrity, but is wary of extending this jurisdictional reach too far, as it might be expansively asserted to justify extravagant claims of national powers.¹⁶⁴ In the CW context, state X may be able to assert jurisdiction to prescribe over acts performed inside state Y by nationals of state Y, where the actions would lead to a chemical war, disrupt X's CW defenses or — more controversially — impair X's foreign policy goals or treaty relationships.

5. *Passive Personality*

Also related to the effects principle is international law's emerging recognition of a state's authority to prescribe rules governing criminal activity that victimizes its nationals.¹⁶⁵ This is the least-established basis of jurisdiction,¹⁶⁶ but it has arguably gained more recognition recently as a partial response to the threat of international terrorism.¹⁶⁷ For CW purposes, it might be applied to afford jurisdiction to state X in a situation where a national of state X was injured by chemicals, even when the injury was inflicted by nationals of state Y within Y's own territory.

consul); *Marc Rich & Co. A.G. v. United States*, 707 F.2d 663 (2d Cir.), *cert. denied*, 463 U.S. 1215 (1983) (United States has broad jurisdiction to prevent evasion of its internal revenue laws); *Rocha v. United States*, 288 F.2d 545 (9th Cir. 1961), *cert. denied*, 366 U.S. 948 (1961) (statute prohibiting fraud in misuse of visas was intended to have extraterritorial effect, reaching actions committed by aliens outside United States in connection with attempted entry into United States); *United States v. Zehe*, 601 F. Supp. 196 (D. Mass. 1985) (United States could prosecute East German citizen for espionage for acts done entirely outside the United States).

164. *Marcuss & Richard*, *supra* note 12, at 445; *Jennings*, *supra* note 152, at 155. The protective principle ordinarily applies only to activities that are generally recognized as crimes, such as the counterfeiting of currency, perjury before immigration officials, or espionage; it does not authorize laws limiting political expression. *RESTATEMENT (THIRD) § 402 comment f*; *Note*, *supra* note 159, at 1330; *Kincannon*, *supra* note 158, at 210.

165. *RESTATEMENT (THIRD) § 402 comment g*.

166. *Jennings*, *supra* note 152, at 155. In the 1887 *Cutting Case*, the United States asserted that Mexico could not try an American national for libel merely because the victim was a Mexican citizen, where the allegedly defamatory material was circulated only inside the United States. The Secretary of State wrote a letter asserting that the passive personality principle, "[t]hrough formerly asserted by a number of minor states . . . has now been generally abandoned, and may be regarded as almost obsolete." *J. SWEENEY, C. OLIVER & N. LEECH*, *supra* note 162, at 90-93.

167. *Cf. RESTATEMENT (THIRD) § 402 reporters' note 3*. The most recent, celebrated application of this principle involved the trial of Fawaz Yunis, who was convicted of hijacking a Royal Jordanian airliner from Beirut in 1985. Even though the crime occurred entirely outside the United States, Yunis was tried in Washington, D.C. pursuant to a 1984 statute making it a federal offense for anyone to hijack a plane carrying an American citizen. *U.S. v. Yunis*, 867 F.2d 619 (D.C.Cir. 1989); *Schuetz, Apprehending Terrorists Overseas Under United States and International Law: A Case Study of the Fawaz Yunis Arrest*, 29 *HARV. INT'L L.J.* 499 (1988). *See also Senate Votes Death Penalty for Overseas Terrorists*, *N.Y. Times*, Oct. 27, 1989, at A13, col. 3 (new legislation relating to terrorist actions inflicted upon American nationals overseas).

6. *Universality*

Finally, international law also recognizes the right of a state to prescribe rules applicable to certain criminal acts that are so heinous as to merit universal condemnation, regardless of where, by whom, and against whom they are committed.¹⁶⁸ Piracy, for example, and the slave trade, have long been recognized as being anathema to the code of conduct of civilized states, and this category of actions is expanding to permit all states to outlaw hijackings, genocide, war crimes and terrorism, wherever and against whomever they occur.¹⁶⁹ As noted, there has been a controversy regarding whether CW use is a *per se* violation of international law;¹⁷⁰ a future convention might affect this status, as well as the legality of mere possession of CW stockpiles, perhaps giving state X the authority to prescribe rules outlawing CW even inside state Y.¹⁷¹

C. *Bases of Jurisdiction to Enforce*

As a general matter, jurisdiction to enforce national rules is much more closely linked to the territoriality principle than is jurisdiction to prescribe.¹⁷² That is, a state is, in a number of circumstances, relatively free to declare conduct to be illegal (or to subject it to taxation or other forms of regulation), even when the actors in question are far from its

168. RESTATEMENT (THIRD) § 404.

169. *Demjanjuk v. Petrovsky*, 776 F.2d 571, 582-83 (6th Cir. 1985), *cert. denied*, 475 U.S. 1016 (1986) (universal jurisdiction for war crimes authorizes Israel to try Nazi prison guard for offenses committed before creation of state of Israel, so extradition from United States was authorized); RESTATEMENT (THIRD) § 404 comment a; *see also* *Filartiga v. Pena-Irala*, 630 F.2d 876, 878 (2d Cir. 1980) (torture is universally condemned as violation of international law and United States court may assert jurisdiction even in case where alleged torture was committed by Paraguayan official against Paraguayan national inside Paraguay).

170. *See supra* text accompanying notes 68-72.

171. The conclusion of a new CW treaty, as an authoritative action undertaken by many of the leading countries of the world, will make a direct contribution to the history of "state practice," an essential element in the evolution of customary international law. In this way, the treaty could provide law, not only for its parties, but even for non-parties who will be caught up in the emergence of a new, binding international norm against CW. *See* A. D'AMATO, *THE CONCEPT OF CUSTOM IN INTERNATIONAL LAW* 103-66 (1971) [hereinafter A. D'AMATO, *THE CONCEPT OF CUSTOM*]; D'Amato, *Custom and Treaty: A Response to Professor Weisburd*, 21 VAND. J. OF TRANSNAT'L L. 459 (1988) [hereinafter D'Amato, *Custom and Treaty*].

172. *Federal Trade Commission v. Compagnie de Saint-Gobain-Pont-à-Mousson*, 636 F.2d 1300, 1316 (D.C. Cir. 1980) ("unlike a state's prescriptive jurisdiction, which is not strictly limited by territorial boundaries, enforcement jurisdiction by and large continues to be strictly territorial."); RESTATEMENT (THIRD), pt. IV, ch. 3, at 320; *see also id.* pt. IV, ch. 2, at 304.

Jurisdiction to enforce is also the function that generates the sharpest international confrontations over authority. Maier, *Interest Balancing and Extraterritorial Jurisdiction*, 31 AM. J. OF COMP. L. 579 (1983) [hereinafter Maier, *Interest Balancing*]. Enforcement generally implies some form of coercion, and each state is reluctant to allow other states to exercise independent sovereign powers of coercion on its territory. RESTATEMENT (THIRD) §§ 431-33 introductory note.

shores. But to enforce those rules — to collect the money, enjoin the behavior, or put the miscreant behind bars — official actions may ordinarily be undertaken only inside the sovereign's own territory.¹⁷³

State X, therefore, may declare it a crime for its nationals to engage in a particular act, irrespective of where they are at the time of commission, and this may well be a valid exercise of jurisdiction to prescribe based on nationality of the actor. But to enforce the rule, state X is not customarily privileged to dispatch its police or army into the territory of state Y, apprehend the X nationals in question, and drag them back to court inside X. That type of law enforcement function — and most other enforcement and adjudication operations as well — may be performed inside Y only by Y's officials (or through Y's cooperation and acquiescence); X has little or no extraterritorial jurisdiction to enforce its own, or any other, national rules inside Y.¹⁷⁴

There are numerous situations, therefore, where — in the absence of a treaty¹⁷⁵ — international law makes X's extraterritorial jurisdiction to prescribe practically a worthless exercise: X is free to declare the actions to be illegal, but until it can properly get its official hands on the wrongdoers, it cannot effectively enforce the declaration. Further, if state Y is

173. RESTATEMENT (THIRD) § 432 comment b; *id.* ch. 7, at 526. In some instances, law enforcement officers of one state who, in good faith, pursue their functions into the territory of another state, have been prosecuted for violations of the local state's laws. *See id.* § 432 reporters' note 1 (collecting accounts of several such incidents).

Recently, the United States Department of Justice advised the FBI that under some circumstances it would be legitimate for American law enforcement officials to exercise their authority inside the territory of foreign states, arresting individuals suspected of violating American law and bringing them into the United States against their will for trial. *U.S. Cites Right to Seize Fugitives Abroad*, N.Y. Times, Oct. 14, 1989, at A6, col. 4. Many other authorities criticized this policy change. *FBI Told It Can Seize Fugitives Abroad*, Wash. Post, Oct. 14, 1989, at A15, col. 1. Iran also claimed the legal power to arrest, anywhere in the world and without the approval of the local authorities, anyone accused of violating Iranian law. *Iranian Newspaper Wants Capt. Rogers Held, Tried*, L.A. Times, Nov. 2, 1989, at B2, col. 1.

174. RESTATEMENT (THIRD) § 433. Recently, however, the Department of Justice has altered its position on the legality of certain international enforcement actions, *U.S. Cites Right to Seize Fugitives Abroad*, N.Y. Times, *supra* note 173, and future actions in this area are unclear.

175. States may agree to permit extraordinary enforcement operations that would normally be incompatible with territorial sovereignty. Great Britain, for example, has allowed the United States to stop, board, search and seize certain privately-owned British flag vessels on the high seas in order to interdict drug traffic, although this type of interference with navigation would otherwise be a violation of international law. *United Kingdom: Letters to U.S. Concerning Measures to Suppress the Unlawful Importation of Narcotic Drugs into the United States*, 21 I.L.M. 439 (1982). Similarly, under "status of forces" agreements, other states have allowed the United States to adjudicate many crimes involving American armed services personnel stationed abroad, using American military courts-martial, rather than local civilian tribunals. *Reid v. Covert*, 354 U.S. 1 (1957).

unwilling to assist in the apprehension of the individuals within Y's territory, there is little that X can do.¹⁷⁶

D. *Resolving Conflicts of Jurisdiction*

Obviously, the six bases of jurisdiction to prescribe can overlap in complex ways. A particular transaction or event could involve nationals of state X, who are taking some action while inside state Y, having an effect inside state Z, and so forth; the real life of international transactions in the chemical industry is even more convoluted than the hypotheticals that law school teachers construct for final examinations.

In many instances, the potential conflict is avoided: perhaps state X (which could assert jurisdiction based on the nationality principle) elects for reasons of its own not to do so in this type of situation¹⁷⁷; perhaps state Y (which has territorial jurisdiction) proclaims a rule of law that is substantially identical to that of state Z, so that the activity can be carried out in harmony with the prescriptions of all concerned governments¹⁷⁸; perhaps the states will voluntarily cooperate with each other to achieve common purposes.¹⁷⁹ But the states may not accommodate each other in this way. They may pass conflicting rules, subjecting interna-

176. Some sanctions, however, may be applicable even without obtaining the cooperation of state Y. State X might decide, for example, to do no further business with the individual who has escaped its jurisdiction to enforce, and could instruct its nationals to similarly refrain. Other rights, such as the ability to transfer assets or to obtain a permit to engage in a particular business, may also be suspended. RESTATEMENT (THIRD) § 431 comment c; Griffin & Calabrese, *supra* note 159, at 10-11, 22-23 (discussing cases in which United States has imposed sanctions on firms for violating export restrictions); *Calcutta East Coast of India and East Pakistan/USA Conference v. Federal Maritime Commission*, 399 F.2d 994 (D.C. Cir. 1968) (foreign corporations' failure to comply with valid subpoena for foreign-held documents did not justify Federal Maritime Commission's cancellation of tariff agreement).

177. See *Pfeiffer v. Wm. Wrigley Jr. Co.*, 755 F.2d 554 (7th Cir. 1985) (presumption against extraterritorial application of United States statutes); *United States v. Mitchell*, 553 F.2d 996 (5th Cir. 1977) (in absence of any evidence that Congress intended Marine Mammal Protection Act to reach as far as possible, court would adopt the presumption that it was not to be applicable to activities inside other states' territorial waters).

178. The concept of international "comity" — more than a purely voluntary act, but less than binding law — has sometimes played a key role in resolving (or avoiding) conflicts over jurisdiction. States customarily attempt to avoid interference with each other, aligning their affairs so as to minimize unnecessary extraterritoriality problems. Maier, *Extraterritorial Jurisdiction at a Crossroads*, *supra* note 12, at 281-85; Note, *Compelling Production of Documents in Violation of Foreign Law: An Examination and Reevaluation of the American Position*, 50 *FORD. L. REV.* 877, 885-86 (1982). In the same vein, former United States Deputy Secretary of State Kenneth Dam has suggested that the issue of extraterritoriality lies at the "intersection of law and diplomacy." Robinson, *Conflicts of Jurisdiction and the Draft Restatement*, 15 *LAW & POL. INT'L BUS.* 1147 (1983).

179. See Maier, *Interest Balancing*, *supra* note 172, at 586-87 (reporting examples of United States-Swiss cooperation in securities investigations).

tional actors to irreconcilable demands, and may through inadvertance or design erect a network of hopelessly inconsistent prescriptions.¹⁸⁰

International law has only barely begun to articulate rules applicable to the resolution of these jurisdictional conflicts. There is no general treaty that establishes a hierarchy among competing claims,¹⁸¹ there has been no definitive exposition by the International Court of Justice,¹⁸² and there is no other international adjudication mechanism that can authoritatively resolve the disputes. The new *Restatement* declares that a balancing must be undertaken, weighing all the interests of all the involved states, to determine whether it is "reasonable" for state X to prescribe a rule with respect to a particular situation.¹⁸³ Under this doctrine, even if one of the six bases of jurisdiction is present, a state may still not prescribe rules if the greater interest of another state makes it unreasonable to do so.¹⁸⁴ The various factors linking the events to each of the contending states are to be examined, and all states with lesser interests should defer to the state having the greatest stake in the outcome.¹⁸⁵

Furthermore, the *Restatement* asserts that the defense of "foreign state compulsion" may be available to help resolve conflicting commands of asserted jurisdiction to prescribe.¹⁸⁶ Where two sovereigns both have a

180. See RESTATEMENT (THIRD) § 403 comment c; A. LOWE, *supra* note 12. In addition, even where states' laws appear identical as written, they may be applied very differently, and political leaders in the various countries may, or may not, elect to cooperate in aligning their national practices. See RESTATEMENT (THIRD) § 404 comment a; J. SWEENEY, C. OLIVER & N. LEECH, *supra* note 162, at 119 (inability of states to conclude generally acceptable definition of "terrorism" has impeded international efforts to cooperate in opposing and punishing it).

181. There have been bilateral agreements that attempt to resolve conflicts of jurisdiction between particular pairs of states. See A. LOWE, *supra* note 12. There have also been efforts to develop a Draft United Nations Code of Conduct on Transnational Corporations, to deal with some aspects of competing extraterritorial claims, see RESTATEMENT (THIRD) § 414 reporters' note 2, as well as to negotiate comparable international accords regulating the production of records and documents, *id.* ch. 7, introductory note, at 527.

182. Merciai, *supra* note 158, at 19.

183. RESTATEMENT (THIRD) § 403; see also Maier, *Interest Balancing*, *supra* note 172.

184. RESTATEMENT (THIRD) § 403(1). See *Asahi Metal Ind. v. Superior Ct.*, 480 U.S. 102, 114-16 (1987) (interests of foreign and of host state must be examined, with careful inquiry into reasonableness of assertion of jurisdiction in particular case); *Timberlane Lumber Co. v. Bank of America*, 549 F.2d 597 (9th Cir. 1977) (in considering extraterritorial application of United States antitrust law, court must weigh interests of affected nations); *Mannington Mills v. Congoleum Corp.*, 595 F.2d 1287 (3d Cir. 1979) (United States court should consider foreign policy, reciprocity, comity, and limitations on judicial power in determining whether to exercise jurisdiction); *In re Uranium Antitrust Litigation*, 617 F.2d 1248, 1255 (7th Cir. 1980) (court should first ask whether it has jurisdiction, then — considering the interests of other states — also ask whether that jurisdiction should be exercised); Shenefield, *Extraterritoriality in Antitrust*, 15 L. & POL. IN INT'L BUS. 1109 (1983).

185. RESTATEMENT (THIRD) § 403(2)(3). The Restatement directs attention to "the center of gravity of a situation." *Id.* ch. 1, subch. a, introductory note, at 237.

186. RESTATEMENT (THIRD) § 441.

stake in a transaction or event, the territorial state should generally prevail, and no state is supposed to require actions that are prohibited under the laws of the state where the action would have to be carried out.¹⁸⁷ An individual caught between the diametrically opposing mandates of unreconciled states, therefore, should not have to elect, without legal guidance, which to offend.¹⁸⁸ Where the conflict is not so direct, however, (as where a state attempts to prohibit an act that would be legal — but would not be *required* — under the law of some other state where the act would be performed) the doctrine of foreign state compulsion is inapplicable, and the extraterritorial mandate may be effected.¹⁸⁹ Similarly, where the private party has in bad faith instigated the state conflict, by deliberately moving documents or activities abroad and courting a foreign state's xenophobic protection, the doctrine does not apply.¹⁹⁰

187. *Id.* at comments a and b; Pickna, *The Uranium Cartel Saga — Yellowcake and Act of State: What Will Be Their Eventual Fate?* 12 CASE W. RES. J. OF INT'L L. 591, 618-20 (1980) (origins and current status of doctrine). The defense of foreign state compulsion would be available to a person caught by conflicting orders, where the two involved states both back up their prescriptions with substantial civil or criminal penalties, but not where one of the states merely "approved" or "participated in" the challenged activity. RESTATEMENT (THIRD) § 441 comment c, reporters' note 4. The doctrine is available regarding both matters of procedure (such as conflicting national orders regarding the production of litigation documents) and matters of substance (such as inconsistent national antitrust laws). Pickna, *supra* at 618-31.

188. The individual may well ultimately have to pick one state's law to obey and the other state's law to violate, but the concept of foreign state compulsion may nonetheless be available to help mitigate punishment or damages. See RESTATEMENT (THIRD) § 441 reporters' note 1; Note, *Extraterritorial Discovery: An Analysis Based on Good Faith*, 83 COLUM. L. REV. 1320, 1340 (1983); see also *In re Westinghouse Electric Corp. Uranium Contracts Litigation*, 563 F.2d 992 (10th Cir. 1977) (sanctions not appropriate where corporation had made diligent effort to produce documents physically held inside Canada, where Canadian government asserted strong interest in restricting access); *United States v. First National City Bank*, 396 F.2d 897 (2d Cir. 1968) (United States bank required under subpoena to produce documents held at its branch in Germany, even when doing so would subject it to civil penalties under German bank secrecy law); Kestenbaum, *Antitrust's "Extraterritorial" Jurisdiction: A Progress Report on the Balancing of Interests Test*, 18 STAN. J. INT'L L. 311, 319-26 (1982) (analyzing compulsion applied in uranium antitrust litigation).

189. *Continental Ore Co. v. Union Carbide & Carbon Corp.*, 370 U.S. 690 (1962) (where antitrust activities involved participation of foreign government, private parties were still liable for their own discretionary acts in pursuit of conspiracy); *United States v. Sisal Sales Corp.*, 274 U.S. 268 (1927) (fact that alleged conspiracy to restrain trade was aided by discriminatory legislation in foreign country does not preclude punishment by United States); *In re Uranium Antitrust Litigation*, 617 F.2d 1248 (7th Cir. 1980) (court may exercise jurisdiction over foreign firms where foreign governments were sympathetic to their anticompetitive actions, but did not mandate them); *Mannington Mills v. Congoleum Corp.*, 595 F.2d 1287 (3d Cir. 1979) (defense of foreign state compulsion inapplicable where host state permits, but does not require, defendant's actions).

190. *Societe Internationale v. Rogers*, 357 U.S. 197, 208-09 (1958); *General Atomic Co. v. Exxon Nuclear Co.*, 90 F.R.D. 290 (S.D. Cal. 1981) (imposing sanctions on plaintiff who had deliberately housed relevant documents in Canada, where they would be immune from discovery under Canadian security regulations).

Other commentators, including the Legal Adviser of the United States Department of State,¹⁹¹ have opined that the *Restatement's* conclusions — while perhaps a desirable outcome for international order — are rather ahead of the current state of international law on point. That is, while this balancing of competing states' relative interests might be a beneficial and plausible activity, it is not yet an approach that is *required* by international law.¹⁹² And American courts have not yet developed a fully consistent approach to controversies of extraterritoriality, with the jurisprudence in the field remaining controversial and somewhat muddled.¹⁹³

Of special relevance to the problem of the production of chemicals and chemical weapons are the standards applicable to the extraterritorial governance of multinational corporations.¹⁹⁴ The *Restatement* suggests relatively greater powers for the state of incorporation to regulate the foreign activities of "branches" of the entity,¹⁹⁵ but relatively less ability to prescribe conduct for foreign-incorporated "subsidiaries,"¹⁹⁶ even if they are wholly owned and controlled by the parent.¹⁹⁷ Only in ex-

191. Robinson, *supra* note 178, at 1152. See also Dam, *supra* note 146 (Deputy Secretary of State concludes that Restatement's balancing approach, while not required by international law, is generally good practice).

192. M. JANIS, AN INTRODUCTION TO INTERNATIONAL LAW 258 (1988) (Restatement is unsupported by precedent on this point); Rosenthal, *Jurisdictional Conflicts Between Sovereign Nations*, 19 INT'L LAW. 487, 502 (1985) (section 403's rule of reasonableness is inconsistent with international law); see also RESTATEMENT (THIRD) § 403 comment a (some United States courts have considered reasonableness criterion to be requirement of international "comity," not quite binding law). See generally Maier, *Resolving Extraterritorial Conflicts, or "There and Back Again,"* 25 VA. J. INT'L L. 7 (1984) [hereinafter Maier, *Resolving Extraterritorial Conflicts*]; Maier, Book Review, 83 AM. J. INT'L L. 676 (1989) (tracing convoluted and controversial evolution of various drafts of § 403) [hereinafter Maier, Book Review].

193. See Note, *Predictability and Comity: Toward Common Principles of Extraterritorial Jurisdiction*, 98 HARV. L. REV. 1310, 1318-19 (1985) (court decisions have been inconsistent and confusing regarding extraterritoriality). See generally Kestenbaum, *supra* note 188.

194. The problem of effective regulation of multinational corporations has long been recognized as a substantial one, where the usual territorial principle of jurisdiction is inadequate. Stevenson, *Extraterritoriality in Canadian - United States Relations*, DEP'T ST. BULL. 429, (Oct. 12, 1970), reprinted in 1 W. FREEDMAN, INTERNATIONAL PRODUCTS LIABILITY 223-24 (1986).

195. RESTATEMENT (THIRD) § 414(1). Host states in general are less concerned about foreign state influence over branches of foreign corporations, and more xenophobic about foreign control over locally-incorporated entities. *Id.* at § 414 comments a and b. But see Wallace, *supra* note 146, at 1104 (in many cases, an entity's identity as branch, rather than as subsidiary, is merely accidental, or derivative of other factors.)

196. RESTATEMENT (THIRD) § 414(2). Unlike a mere "branch," a foreign-incorporated subsidiary acquires its own "nationality," and the justification for control by the state of the parent's incorporation is attenuated. *Id.* at § 414 comment a. On the other hand, the host state may not, as a ruse to wrest all control away from the state of the parent, require local incorporation; and the entity itself may not conspire to escape all control from the parent state simply by incorporating locally. *Id.* at § 414 comment b.

197. The definitions of "ownership" and of "control" are elusive, and different standards are used by different countries for different purposes. Ordinarily, an individual or group with

traordinary situations may the state of incorporation of the parent presume to prescribe rules applicable to foreign-incorporated subsidiaries, and even then the preferred tactic is to prescribe the orders as instructions to the parent, which itself provides guidance to the subsidiary (rather than allowing instructions to flow directly from the government to the foreign subsidiary corporation).¹⁹⁸ The actual record of United States practice, however, has frequently included attempts to regulate directly the activities of foreign corporations that are owned or controlled by United States persons, and the response of the international system has been mixed.¹⁹⁹

In order to observe the interplay between the various bases of jurisdiction and to determine how previous clashes of prescriptions have actually been resolved, it is necessary now to take a quick look at a few of the more celebrated instances of conflicts of jurisdiction. These case studies have arisen in varying contexts,²⁰⁰ but the incidents that can shed the most useful light upon the possible future problem of conflicting jurisdiction in a CW treaty are concentrated in the areas of export controls,²⁰¹ economic regulation,²⁰² and litigation discovery.²⁰³ While many interna-

51% of the equity is considered to have both ownership and control, but in many instances a smaller plurality holding will also suffice, and a major debtholder may also be the one who plays the leading role in directing the corporation's business. See RESTATEMENT (THIRD) § 414 comment e; *Barcelona Traction, Light and Power Co. Ltd. Case (Belg. v. Spain)*, 1970 I.C.J. 3, at 182 (opinion of Jessup, J.); *United States v. Firestone Tire & Rubber Co.*, 518 F. Supp. 1021 (N.D. Ohio 1981) (where parent corporation exercised relatively little control over foreign-incorporated subsidiary, parent would not be liable for subsidiary's holding gold in contravention of United States statute).

198. RESTATEMENT (THIRD) § 414(2) comments c and e. See generally Thompson, *United States Jurisdiction over Foreign Subsidiaries: Corporate and International Law Aspects*, 15 LAW & POL'Y IN INT'L BUS. 319 (1983) (regulation of subsidiary through parent corporation); Vagts, *A Turnabout in Extraterritoriality*, 76 AM. J. INT'L L. 591 (1982) (European attempts to require parent corporation to notify its subsidiary's host government in advance of certain major changes in subsidiary's operations).

199. See Note, *Extraterritorial Application*, *supra* note 159, at 1322; Kincannon, *supra* note 158, at 211-20.

200. See D. LANGE & G. BORN, *supra* note 12 (summarizing eight kinds of extraterritoriality conflicts); B. CARTER, *supra* note 12.

201. The United States and other countries have frequently imposed a variety of restrictions upon the export of designated goods to designated countries, for a variety of purposes, including foreign policy or national security motivations. The field is a broad one, with many different types of trade embargoes available for particular purposes. See D. LANGE & G. BORN, *supra* note 12; B. CARTER, *supra* note 12; Abbott, *Linking Trade to Political Goals: Foreign Policy Export Controls in the 1970s and 1980s*, 65 MINN. L. REV. 739 (1981) [hereinafter Abbott, *Linking Trade*]; Abbott, *Defining the Extraterritorial Reach of American Export Controls: Congress as Catalyst*, 17 CORNELL INT'L L.J. 79 (1984) [hereinafter Abbott, *Export Controls*]; Marcuss & Mathias, *supra* note 159; Moyer & Mabry, *supra* note 14.

202. The principal extraterritoriality cases involving economic regulation have arisen in the antitrust area, as many states sustain quite different attitudes toward legal regulation of economic competition. See D. LANGE & G. BORN, *supra* note 12, at 4-12; Jennings, *supra* note 152.

tional clashes could be selected,²⁰⁴ the following five seem most applicable to the prospective CW convention.²⁰⁵

1. *Fruehauf*

In 1964, Fruehauf, an American corporation, owned 70 per cent of a French subsidiary corporation, Fruehauf-France.²⁰⁶ The subsidiary contracted with another French corporation to supply 60 truck trailers for \$360,000, making this the largest single customer for Fruehauf-France. Subsequently, Fruehauf-France learned that the trailers were intended for export to the People's Republic of China. Although no United States-origin goods or technology were embodied in the trailers, American policy at the time was strongly antithetical to trade with China, and the United States Treasury Department directed Fruehauf to order the subsidiary to abrogate the contract.

Fruehauf complied with the government's request, and passed the instructions along to Fruehauf-France, under compulsion of a United States statute that would apply both civil and criminal penalties for American nationals as well as for corporations that were "owned or controlled" by Americans.²⁰⁷ The French directors of Fruehauf-France,²⁰⁸ however, applied to a French court for protection and commenced an extraordinary judicial procedure, somewhat akin to a bankruptcy proceeding, in which a local court administrator took over the subsidiary, managing it through completion of the trailer contract.²⁰⁹

203. The efforts to procure documents from other states for use in United States courts have produced a great deal of international friction, as the standards and procedures for discovery are radically different in various states. See *Extraterritoriality: Compelling Foreign Judicial Assistance in Production of Documents and Evidence*, AM. SOC. INT'L L.: PROC. OF THE 79TH ANN. MEETING 1, 1-3 (1985) [hereinafter PROCEEDINGS].

204. The recent trend in most areas demonstrates that problems of extraterritoriality are becoming increasingly common. See D. LANGE & G. BORN, *supra* note 12, at 40; D. Rosenthal & W. Knighton, *supra* note 12, at 83. But see Feinberg, *supra* note 12 (problem of extraterritoriality may not be as serious as some imagine; conflicts may not be as frequent or as intractable as they appear).

205. Cf. Rosenthal, *supra* note 192, at 488-92 (identifying antitrust, export controls and discovery laws as most controversial aspects of extraterritoriality).

206. Regarding the *Fruehauf* saga, see Berman & Garson, *United States Export Controls — Past, Present, And Future*, 67 COLUM. L. REV. 791, 871-72 (1967); Kincannon, *supra* note 158, at 213-15; B. CARTER, *supra* note 12, at 188 n. 23; D. LANGE & G. BORN, *supra* note 12, at 19; Thompson, *supra* note 198, at 327-28.

207. The Trading With the Enemy Act (TWEA), 50 U.S.C. app. §§ 1-5 (1982 & Supp. V 1987).

208. Five of Fruehauf-France's directors were United States nationals and three were French.

209. *Fruehauf v. Massardy* [1968] D.S. Jur. 147, [1965] J.C.P. II 14274 bis (Cours d'appel, Paris), summarized in English in 5 I.L.M. 476 (1966). The United States could base its assertion of jurisdiction upon several of the bases outlined above: nationality (on the theories that the parent corporation was an American national, that the subsidiary was controlled by Americans, and perhaps that some of the production know-how had originated in the United States);

Long Arms and Chemical Arms

Treasury officials ultimately elected not to prosecute Fruehauf, reasoning that the actions of the French court had effectively deprived the parent of its "control" over the subsidiary, and acknowledging the practical impossibility of extraterritorial compliance with the United States statute in the face of determined local resistance.²¹⁰ The incident also became something of a political *cause célèbre*, cited by President de Gaulle as an illustration of the dangers of multinational corporations and especially of American influence.

2. *Soviet Natural Gas Pipeline*²¹¹

In 1981, as a part of the United States response to Soviet participation in the repressions in Poland, President Reagan levied a series of trade controls to inhibit construction of a \$25 billion pipeline designed to carry Soviet natural gas from wells in Siberia to markets in Western Europe. The pipeline project depended upon access to certain Western technology, especially turbines and compressors to be manufactured in Europe by local corporations under various arrangements with particular American sources.

Initially, the United States sanctions applied only to American corporations, prohibiting them from doing business directly with the U.S.S.R., but in 1982 the package was broadened in an attempt to reach 1) foreign corporations that were owned or controlled by American nationals, 2) equipment produced abroad by any corporation using American-origin goods, and 3) equipment produced abroad by any corporation using American technology.²¹²

The resulting protests about overreaching United States extraterritoriality were vigorous, and European allies proceeded to issue their own

effects (since money, at least, would flow between parent and subsidiary); and protective (arguing that the sale to China would conflict with United States foreign policy objectives). France, on the other hand, could assert territoriality (since the contract would be performed in France); nationality (based upon the subsidiary's independent legal personality); effects (if Fruehauf-France went bankrupt, French nationals would lose their jobs); and protective (the government of France did not want its foreign policy toward China to be dictated by the United States).

210. See RESTATEMENT (THIRD) § 441 comment e (availability of defense of foreign state compulsion for American directors of Fruehauf in criminal and civil suits).

211. Regarding the Yamal pipeline controversy, see generally Moyer & Mabry, *supra* note 14, at 60-92; Kincannon, *supra* note 158; Abbott, *Export Controls*, *supra* note 201, at 82-90; RESTATEMENT (THIRD) § 414 reporters' note 8; D. LANGE & G. BORN, *supra* note 12, at 22.

212. Moyer & Mabry, *supra* note 14, at 108. Moreover, the extraterritorial United States controls were to have a retroactive aspect, too: they would bar transfers of goods or technology even where a particular item had originally been exported from the United States to a user in an allied country without any contemporaneous controls on subsequent use or reexport. Many Europeans complained bitterly about the United States suddenly seeking to assert authority over materials that it had previously exported without restrictions. See Marcuss & Mathias, *supra* note 159, at 6-8; Morse and Powers, *U.S. Export Controls and Foreign Entities: The Unanswered Questions of Pipeline Diplomacy*, 23 VA. J. INT'L L. 537 (1983).

countervailing orders, compelling their locally-incorporated entities to comply with their production contracts, notwithstanding contradictory directions from their respective American parents or licensors.²¹³ When United States officials began to take actions to discipline the companies that refused to cease production, the Europeans did not back down.²¹⁴ In the one case that came to trial in Europe, a Dutch court held that the American extraterritorial order was not entitled to international recognition, and did not provide a sufficient rationale to excuse Sensor Nederland B.V., a Dutch subsidiary of an American corporation, from performing its contract.²¹⁵ Only a few months later, the Reagan administration rescinded the extraterritorial controls.

3. *Libyan Arab Bank*²¹⁶

In 1986, in response to Libya's participation in widespread terrorist activities, the United States imposed a broad range of economic sanctions, including freezing all Libyan interests in property in the United States or held by American nationals outside the United States. The Libyan Arab Foreign Bank, a government-owned Libyan corporation, had deposited funds ultimately totaling \$292 million with Bankers Trust Company, a United States corporation that was to hold the account at its branch office in London. When the Libyan Arab Bank attempted to withdraw the money, Bankers Trust replied that it was blocked by the United States sanctions, and the Libyans sued in British court.

213. Among the companies most directly caught between the conflicting orders of the United States and the local government were Dresser-France, a French corporation indirectly owned by Dresser Industries, located in Texas, Kincannon, *supra* note 158, at 202, 205; Atwood, *The Export Administration Act and the Dresser Industries Case*, 15 LAW & POL'Y INT'L BUS. 1157 (1983); and John Brown Engineering, Ltd., a comparable British company. Kincannon, *supra* note 158, at 202, 205. See *Dresser Industries v. Baldrige*, 549 F. Supp. 108 (D.D.C. 1982) (manufacturer of pipeline equipment unsuccessfully sought injunction preventing Secretary of Commerce from imposing sanctions against exports).

214. The governments of France and the United Kingdom took the most direct actions in defiance of the United States sanctions, ordering locally-incorporated entities to fulfill their contracts. Germany and Italy took resistant, but less bold, stances. Moyer & Mabry, *supra* note 14, at 82-83; Maier, *Interest Balancing*, *supra* note 172, at 580, n.3.

215. Judgment in *Compagnie Européenne Des Petroles S.A. v. Sensor Nederland B.V.* (Dist. Ct. at the Hague, Sept. 17, 1982), reprinted in 22 I.L.M. 66 (1983). The court considered various bases for United States jurisdiction to prescribe, but found each wanting: mere ownership or control of a corporation did not confer American nationality upon it, where it had been separately incorporated in Holland; the protective principle applied only to acts that jeopardized the security or creditworthiness of a state, not to acts that simply interfered with foreign policy interests; and the exports in question did not have any direct or illicit "effects" within the United States. *Id.* at 72-73. The court also noted that the American extraterritorial rule might not be denied effect in a situation where United States nationals had created a non-American corporation for the sole purpose of evading the United States trade controls, but there was no suggestion that such motivations were present here. *Id.* at 73.

216. See generally B. CARTER, *supra* note 12, at 195-96.

The United Kingdom had not enacted any sanctions similar to the American program, and the British court held that the local law would take precedence over the extraterritorial mandate, even with respect to a "branch" (as opposed to a locally-incorporated subsidiary) of a United States corporation.²¹⁷ The court determined that the banking law of the forum state, rather than the law of the national state of Bankers Trust, should prevail, and it ordered Bankers Trust to remit the full account, plus interest, to the Libyan Arab Bank.²¹⁸

Bankers Trust would have been in a classic deadlock situation — ordered by its home government not to transfer funds to Libyan interests, and ordered by its host government to do so immediately. The United States, however, shortly thereafter elected not to press the case, and issued a special license, allowing the funds to be moved.²¹⁹

4. *Laker Airways*²²⁰

Laker Airways, a bankrupt British corporation, endeavored throughout the early 1980s to bring an antitrust claim in United States courts against selected American and European airlines and other companies.²²¹ Some of the defendants attempted to find protection in the British courts,

217. Unlike most other sectors of international commerce, international banking is conducted predominantly through foreign branches of the parent bank, rather than through foreign-incorporated subsidiaries. Under the 1983 Basle Concordat, the central banks of the major commercial states agreed that, in general, the primary responsibility for regulating branch banks would lie with the host state, and the home state of the parent bank would play a reduced, secondary role. RESTATEMENT (THIRD) § 414 reporters' note 6; Wallace, *supra* note 146, at 1104 n.16.

218. *Libyan Arab Foreign Bank v. Bankers Trust Co.* (Q.B. Comm'l Ct. Sept. 2, 1987), reprinted in 26 I.L.M. 1600 (1987). The case for United States jurisdiction would include: territoriality (the act of transferring funds would originate inside the United States); nationality (the London bank was merely a branch of the United States bank, with no separate legal identity); effects (the millions of dollars would, or would not, be held for the United States); and protective (release of the funds would interfere with the United States policy of responding to Libyan provocations). British assertion of jurisdiction would be based upon: territoriality (the branch office was in London, and the funds were held there); nationality (even if the London branch were not separately incorporated, it was in some sense still a British bank); effects (the integrity of the British banking system was implicated); and protective (the government of the United Kingdom had decided, for its own reasons, not to follow the American program of sanctions).

219. *Bankers Trust Cleared by U.S. to Repay Libya*, Wall St. J., Oct. 13, 1987, at 31, col. 1.

220. *Laker Airways v. Sabena, Belgian World Airlines*, 731 F.2d 909 (D.C. Cir. 1984). See RESTATEMENT (THIRD) § 403 reporters' note 7; M. JANIS, *supra* note 192, at 252; D. LANGE & G. BORN, *supra* note 12, at 7; Joelson, *supra* note 162, at 1123-25.

221. Many of the most important extraterritoriality cases (or at least the cases implicating the largest amounts of money) have concerned antitrust law, and the jurisprudence of extraterritoriality is most well-developed there. A. LOWE, *supra* note 12, at xv; *Zenith Radio Corp. v. Matsushita Electric Industrial Co. Ltd.*, 494 F. Supp. 1161 (E.D. Pa. 1980) (reviewing evolution of United States case law regarding extraterritorial application of antitrust statutes). Antitrust cases, as others, have increasingly looked to a balancing of interests of states affected by extraterritoriality claims. See *Dominicus Americana Bohio v. Gulf & Western Industries*, 473 F. Supp. 680 (S.D.N.Y. 1979) (effect on United States commerce of anticompetitive behavior

seeking antisuit injunctions against Laker's United States actions and arguing for application of the substantially more permissive United Kingdom law regarding business combinations and practices.

Eventually, diametrically opposed restraining orders were issued: a British court enjoined the plaintiff from proceeding in the United States tribunal against certain European defendants, while the United States court forbid many of the same defendants from proceeding in the United Kingdom forum. The British government invoked a "blocking statute," prohibiting compliance with what was seen as an overly aggressive United States assertion of extraterritorial jurisdiction in the antitrust field.²²²

Finally, the impasse was broken when the United Kingdom House of Lords dissolved the British injunction, allowing the litigation to proceed in the United States.²²³

5. *Litigation Discovery*

One of the most vexatious, recurrent problems of extraterritoriality concerns international discovery, where the courts of state X, in pursuing a criminal or civil case, seek access to testimony, documents, or other evidence from nationals of state Y located inside state Y.²²⁴

outside the United States need not be direct and substantial, as long as it is not *de minimus* and balancing of interests does not require abstention); Shenefield, *supra* note 184.

222. The passage of a blocking statute has become a standard tool in a nation's resistance to what it perceives as another state's over-zealous extraterritorial claims of jurisdiction. The statutes vary substantially, but generally have the effect of authorizing, or even requiring, local persons and corporations to refuse to comply with orders from a foreign government. See M. JANIS, *supra* note 192, at 252-53; A. LOWE, *supra* note 12; Marcuss & Richard, *supra* note 12; Note, *supra* note 178, at 877 n.1 (noting several recent blocking statutes).

223. See Maier, *Resolving Extraterritorial Conflicts*, *supra* note 192 at 36-40 (noting substantial influence of Laker case on content and drafting of section 403 of the Restatement). Bases of jurisdiction that could be adduced on behalf of the American courts would include: territoriality (many of the flights in question originated or terminated inside the United States); nationality (many of people injured by alleged price fixing were American nationals, as were some of the defendants); effects (the higher prices were charged to American nationals, and to others wishing to visit the United States); and protective (American policy opposed business combinations in restraint of trade). The bases supporting British jurisdiction would include: territoriality (there were many flights to or from the United Kingdom); nationality (Laker was incorporated in Britain); effects (the outcome of the dispute would certainly affect air fares to Britain); and protective (the British government policy on antitrust matters was strongly held, too); see Note, *supra* note 188 (no coherence exists in case law resolving conflicts between domestic discovery orders and foreign nondisclosure laws).

224. *Société Nationale Industrielle Aérospatiale v. United States District Court for the Southern District of Iowa*, 482 U.S. 522 (1987) (United States discovery procedures generally operate in tandem with multilateral treaty procedures, providing two avenues for obtaining foreign documents); *Federal Trade Commission v. Compagnie de Saint-Gobain-Pont-a-Mousson*, 636 F.2d 1300 (D.C. Cir. 1980) (quashing investigatory subpoena by FTC against French corporation operating, and holding documents, inside France); RESTATEMENT (THIRD) § 442

Long Arms and Chemical Arms

In many instances, the court, perceiving a great need for the solicited material, is prepared to impose tough sanctions upon the party withholding it, while the requested state asserts equally firmly the local privacy laws or other public policy considerations that forbid compliance. Again, the litigant caught in the middle has little reliable guidance about which sovereign to offend.²²⁵

In this situation, too, the *Restatement* directs primary attention to the principle of reasonableness and the consideration of territoriality, suggesting that the requesting state ought generally to defer to the presumably stronger interests of the state where the documents are physically held, and ought not to take excessive actions against the non-compliant litigant.²²⁶ The *Restatement's* rule would authorize a substantial degree of extraterritorial discovery, but with heightened standards of materiality and moderated sanctions for noncompliance. The litigating party may be required to make a good faith effort to produce the solicited material, but failure to overcome a foreign blocking statute may not be fatal.²²⁷

An extra measure of confusion surrounds the relationship here between a parent corporation and its foreign branches and subsidiaries. In general, United States courts will hold a parent responsible for producing

reporters' note 1; D. ROSENTHAL & W. KNIGHTON, *supra* note 12, at 68-80; 1 W. FREEDMAN, *supra* note 194, at 416-33; Note, *supra* note 178; Joelson, *supra* note 162, at 1126-29.

The considerations of this section arise most frequently, and in their most acute form, in the context of litigation, but they can also occur in non-adjudicative settings, such as an order for the production of documents pursuant to an administrative proceeding. *See* Civil Aeronautics Board v. Deutsche Lufthansa Aktiengesellschaft, 591 F.2d 951 (D.C. Cir. 1979) (CAB can order defendant to use all good faith efforts to produce documents held abroad, notwithstanding contrary German law); United States v. Toyota Motor Corp., 569 F. Supp. 1158 (C.D. Cal. 1983) (IRS summons may require Japanese corporation to produce documents held abroad); RESTATEMENT (THIRD) § 414 reporters' note 2; D. LANGE & G. BORN, *supra* note 12, at 14-16.

225. *See* United States v. Davis, 767 F.2d 1025 (2d Cir. 1985) (balancing competing interests, it was permissible for district court to order defendant to produce Swiss bank records); United States v. Vetco, Inc., 691 F.2d 1281 (9th Cir. 1981), *cert. denied*, 454 U.S. 1098 (1981) (upholding sanctions for failure to produce tax records held by Swiss subsidiary of American corporation, after balancing several factors to determine that Swiss privacy law was insufficient excuse for non-compliance); *In re* Grand Jury Proceedings, Bank of Nova Scotia, 740 F.2d 817 (11th Cir. 1984), *cert. denied*, 469 U.S. 1106 (1985) and *In re* Grand Jury Proceedings, 691 F.2d 1384 (11th Cir. 1982), *cert. denied*, 462 U.S. 1119 (1983) (companion cases in which court upheld contempt fines when bank failed to produce foreign-held records, where documents were so important to grand jury investigation that even the creation of some international friction was justified); D. LANGE & G. BORN, *supra* note 12, at 12-14.

226. RESTATEMENT (THIRD) § 442(1)(c).

227. *Société Internationale pour Participations Industrielles et Commerciales, S.A. v. Rogers*, 357 U.S. 197 (1958) (foreign corporation's failure, despite good faith efforts, to produce foreign bank records did not justify dismissal of its complaint, when Swiss criminal law prohibited access); United States v. First National Bank of Chicago, 699 F.2d 341 (7th Cir. 1983) (reversing sanctions imposed for defendant's failure to produce records held by its Greek branch, due to balancing of competing interests); *Graco, Inc. v. Kremlin, Inc.*, 101 F.R.D. 503 (N.D. Ill. 1984) (analyzing factors to be balanced in seeking documents for antitrust case in opposition to French blocking statute); RESTATEMENT (THIRD) § 442(2)(a).

documents held by its overseas affiliates, absent a blocking statute, but many other states will not automatically require the parent to obtain and surrender materials possessed by its foreign subsidiaries. The law is even more unsettled in the reverse scenario, regarding the responsibility of a subsidiary for producing documents or records held by its foreign parent corporation.²²⁸

IV. The Extraterritorial Reach of the Chemical Weapons Convention

This section attempts a reconciliation of the previous two. It begins by describing those aspects of the draft treaty and of the commercial chemical industry that will pose special problems of jurisdictional reach. It then notes some factors that make this application of extraterritoriality similar to, and some that ill conspire to make it fundamentally different from, those analyzed above. Most importantly, it suggests, at the level of principle and at the level of practice, how the negotiators and implementers of the nascent chemical weapons treaty should strive to deal with the problems.

A. *The Reach of the Draft Convention*

The current rolling text of the CD's draft chemical weapons convention deals with issues of jurisdiction at several disparate points; the term "jurisdiction" itself appears in the document no fewer than twenty times.²²⁹

More abstractly, there are four different kinds of obligations that the treaty parties would assume that could generate substantial questions of

228. *In re Uranium Antitrust Litigation*, 480 F. Supp. 1138 (N.D. Ill. 1979) (court has discretion to order American national to produce documents held by foreign parent or subsidiary); *In re Investigation of World Arrangements with Regard to the Production, Transportation, Refining & Distribution of Petroleum*, 13 F.R.D. 280 (D.D.C. 1952) (court may order parent corporation to provide documents held abroad by foreign subsidiary); RESTATEMENT (THIRD) § 442 reporters' note 10.

229. The rolling text uses a variety of formulations to address jurisdictional issues at different points. At four places, the text refers collectively to possession, jurisdiction and control (Report of the Ad Hoc Committee, *supra* note 6, art. I.5; art. I.6; Annex to art. III, para. I.A.2; Annex to art. III, para. II.A.2). There are five references to territory, jurisdiction and control (art. III.1(a)(ii); art. III.1(b)(ii); art. III.1(c); art. IV.2(b); art. VI.1(b)); and eleven references to jurisdiction and control (art. III.1(a)(i); art. III.1(b)(i); art. IV.1; art. IV.2(a); art. V.1; art. V.4(a); art. VII.1; Annex to art. III, para. I.B; Annex to art. III, para. II.B; Annex to art. IV, para. I.A; Annex to art. IV, para. I.B). In addition, the draft treaty contains two references to possession and territory (Annex to art. III, para. I.A.1; Annex to art. III, para. II.A.1); one reference to territory and control (art. V.4(a)); four references to control (art. III.1(a)(iii); art. III.1(b)(iii); art. IV.2(c); art. V.4(b)); two references to possession (Annex to art. VI[1], para. I.C(b); Annex to art. VI[1], para. II.5); and one reference to territory (Annex to art. VI[1], para. 2).

Long Arms and Chemical Arms

extraterritoriality.²³⁰ A credible interpretation must therefore be developed to deal intelligently and consistently with each.

1. *Prohibitions*

Basic to the concept of the CW agreement would be the undertakings not to produce or maintain arsenals of chemical weapons or the facilities that manufacture them.²³¹ The parties will be obligated to halt production promptly and to complete the destruction and dismantling process within ten years of the treaty's entry into force.²³²

2. *Declarations*

Each party will be obligated to provide, thirty days after the treaty enters into force, declarations regarding its chemical weapons and chemical weapons production facilities.²³³ This information shall include the locations, quantities, and inventories of all chemical weapons, and shall be updated annually as the destruction operations proceed.²³⁴ With respect to CW production facilities, the agreement will require each party to disclose information regarding, *inter alia*, the ownership, operation, capacity, layout and equipment of every CW plant.²³⁵

Moreover, each party is also required to provide information regarding other chemicals — those which are produced for civilian or commercial purposes, but which could also be adapted to CW programs. The scope of the reporting requirements will vary substantially with the lethality of the particular chemical and the danger of its diversion into weaponry, and will include statistics regarding each facility's production, consumption, imports and exports of controlled chemicals.²³⁶

3. *Inspections*

Each party will be obligated to hold open for international on-site inspection, including continuous inspection through the installation of automatic instruments, all the locations where chemical weapons are produced, stored or destroyed.²³⁷ The draft contains extensive elaboration of the rights and functions of the International Inspectorate and of

230. The parties will also agree not to use chemical weapons, Report of the Ad Hoc Committee, *supra* note 6, art. I.3, and not to prepare for the use of chemical weapons, *id.* art. I.4. While a party might conduct some of these activities outside its national territory, they do not raise jurisdictional questions of the same magnitude as the four actions cited in the text.

231. Report of the Ad Hoc Committee, *supra* note 6, art. I.1.; art. I.5; art. I.6.

232. *Id.* art. IV.5; art. V.8.

233. *Id.* art. III.

234. *Id.* art. IV.2; art. IV.5.

235. *Id.* Annex to art. V.

236. *Id.* app. to art. VI.

237. *Id.* art. IV.8; art. V.5; art. 6.

the corresponding duties of the host state, with further details to be negotiated on a state-by-state basis in subsidiary arrangements between each party and the CW Organization.²³⁸

Even many facilities with no CW history will be subject to elaborate international inspection, to ensure that only the benign functions are continuing.²³⁹ Inspectors "shall have unimpeded access to all areas" of these facilities, shall "bring with them and use such agreed instruments as may be necessary for the completion of their tasks," and shall receive and analyze samples taken at their direction.²⁴⁰ Representatives of the host state may accompany the international inspectors, examine their equipment, and replicate their activities,²⁴¹ but the final report is to be prepared by the inspectors themselves.²⁴²

4. *Noncircumvention*

The draft convention also contains an undertaking "not to assist, encourage, or induce, in any way, anyone to engage in activities prohibited to Parties."²⁴³ Some states (the United States and the United Kingdom, for example)²⁴⁴ have such strong patterns of historical cooperation in military matters, including CW research and production, that the treaty's constraints must ensure against evasions that might be undertaken through other countries.²⁴⁵

All of these obligations, of course, will be performed primarily within the national territory of each state party.²⁴⁶ The vast majority of the current CW inventories, as well as the facilities for producing, testing and storing them, are held (for reasons of political and military strategy) within the territory of the state that owns them.²⁴⁷ Similarly, although the chemical industry is a multinational one, a substantial percentage of

238. *Id.* Annex to art. IV; Annex to art. V.

239. *Id.* Annex to art. VI [2].

240. *Id.*

241. *Id.* para. 14(d).

242. *Id.* para. 16.

243. *Id.* art. I.2.

244. S. MURPHY, A. HAY & S. ROSE, *supra* note 24, at 88-93 (tracing evolution of American and British collaboration on chemical and biological weapons activities); SPOKESMAN FOR THE RUSSELL COMMITTEE AGAINST CHEMICAL WEAPONS, *THE THREAT OF CHEMICAL WEAPONS* 21-22 (1982) (describing agreement between United Kingdom, Canada, Australia, and the United States to cooperate in research, development, testing and production of CW during 1950s).

245. See S. HERSH, *supra* note 16, at 244-46 (U.S. Department of Defense spent over \$15.8 million in 1967 to finance CW-related research projects at dozens of foreign universities in Japan, Austria, Ireland and elsewhere).

246. The Vienna Convention on the Law of Treaties specifies that ordinarily "a treaty is binding upon each party in respect of its entire territory." Vienna Convention on the Law of Treaties, May 23, 1969, art. 29, 1155 U.N.T.S. 332, 339. This is a minimum requirement; a treaty could require states to assume greater responsibilities.

247. See *supra* note 33 (U.S. and U.S.S.R. foreign depots of CW).

the business is still conducted within the national territory of the parent corporations, raising no acute issues of extraterritoriality.

Nevertheless, a significant international problem will remain due to the increasing internationalization of the chemical and allied industries. Even if the CW convention is very successful, and a great many states elect to adhere to it, there will undoubtedly be many holdouts, possibly including some strategically and economically important states.²⁴⁸ What will happen — and what legally should happen — if a corporation from state X (which becomes a party to the treaty) operates a chemical facility (through a branch or a locally incorporated subsidiary) inside state Y (which does not join the treaty regime)? Are the prohibitions of the treaty in effect for this facility? What happens if state Y refuses to allow the corporation to collect and report the requisite data about production and consumption of key chemicals? Is it a violation of the treaty, chargeable to state X, if state Y declines to admit the International Inspectorate to the facility, as X has pledged to do? And is it further a violation for state X if one of its corporations is assisting state Y in the possible pursuit of a CW capacity?

B. *What Should Not Be Done*

It is convenient to begin the response by stating for emphasis the negative options, identifying some strategies that should not be employed here because the costs would be far greater than the benefits.

A key part of the process of fashioning a feasible CW regime will be the realization of the importance of avoiding undue interference with the current structure, operation and dynamism of the chemical industries. Obviously, there is a problem in the global chemical market at this time, with some multinational firms evading controls on the export of sensitive equipment and materials that can be used to bolster renegades like Iraq and Libya in the pursuit of a domestic CW capability.²⁴⁹ Exposés such

248. Other important multilateral arms control accords have attracted widespread acceptance, but in each case there are salient "problem countries" that have not acceded to the treaty and remain outside its jurisdiction. See ARMS CONTROL AND DISARMAMENT AGREEMENTS, *supra* note 5, at 131 (Biological Weapons Convention has 111 initial signatures and 90 current parties); *id.* at 98 (Nuclear Non-Proliferation Treaty has 97 initial signatures and 116 current parties).

249. The case of the alleged Libyan chemical weapons facility at Rabta has attracted the greatest international attention recently, as American and West German officials have investigated and exposed the web of international transactions that supplied equipment and other assistance to Colonel Qaddafi. See, e.g., *Bonn Names 4 More Firms Linked by U.S. to Libya*, Wash. Post, Jan. 10, 1989, at A16, col. 3. More generally, a "Roll of Dishonor" has been compiled, listing companies reported to be assisting in the proliferation of chemical, biological and nuclear weapons. 135 CONG. REC. S217 (daily ed. Jan. 25, 1989) (statement of Sen. McCain); see also *Western Industry Sells Third World the Means to Produce Poison Gas*, Wall St. J., Sept. 16, 1988, at 1, col. 1.

as those depicting several German corporations and other firms blindly pursuing commercial advantage despite obvious security concerns are probably merely the tip of the iceberg of covert international trade in dangerous dual-use chemicals.²⁵⁰ Greater controls, both national and among like-minded allies, must be developed to pinch this underground economy, retarding the ability of potential CW proliferators to develop their arsenals.²⁵¹

At the same time, however, we must be careful not to constrain the private chemical firms more than is necessary. Chemical manufacturers, and the diverse consumers they serve, constitute a vital segment of the economy, essential to sound growth for the United States and virtually all other societies, and they should be encouraged, not shackled. The following points should be observed in drafting the CW Convention.

First, do not make the verification provisions of the CW treaty that apply to commercial entities more onerous than is necessary. To be sure, the chemical industry is already heavily regulated, and additional requirements might be only a marginal accretion to the current manageable workload.²⁵² But it is vitally important not to press too far, and especially to take care to preserve the confidentiality of the manufacturers' processes.²⁵³ The rolling text recognizes this imperative, and its strictures on this point should be fulfilled.²⁵⁴

250. The West Germans have been identified as "the most egregious offenders" regarding the export of chemical weapons-related materials to the Third World. *U.S. Sees Gains in Effort to Stop West German Aid to Libya Chemical Plant*, N.Y. Times, Jan. 14, 1989, at A5, col. 1 (quoting former Director of United States Arms Control and Disarmament Agency, Kenneth L. Adelman). But other states have also hosted companies or individuals that have sought to make a profit by promoting the CW ambitions of developing states. See, e.g., *U.S. Fears Japan Aids Libya on Chemical Arms*, N.Y. Times, Sept. 18, 1988, at L15, col. 1; Thatcher & Aeppel, *The Poisons Spread*, *supra* note 46, at B1, col. 1; *Glenn Hearing*, *supra* note 133 (testimony of William von Raab, Commissioner of United States Customs Service, at 4) (United States); *CIA Cites European Role in More Gas-Weapon Sites*, Wash. Post, Feb. 9, 1989, at A24, col. 1 (European nations).

251. See, e.g., *Glenn Hearings*, *supra* note 133 (opening statement of Sen. John Glenn); *Bonn Will Tighten Curb on Exports of Deadly Goods*, N.Y. Times, Jan. 11, 1989, at A1, col. 4.

252. See, e.g., Carpenter, *Government Regulation*, *supra* note 135 (description of multifaceted regulation programs applicable to typical American chemical facility).

253. The public statements of United States chemical producers about the rolling text of the CW convention highlight their concern with the preservation of commercial secrets. See, e.g., Carpenter, *Implementing Disarmament*, *supra* note 135, at 8-9. The second most important issue to the manufacturers is probably the importance of avoiding unilateral United States trade restrictions, which could simply result in customers shifting their purchases to suppliers from other nations, to the competitive disadvantage of American firms. See *Hearings on Proliferation*, *supra* note 3 (statement of Max L. Turnipseed, at 2-3).

254. In three separate provisions, the draft convention addresses the importance of preserving the confidentiality of information obtained during the course of verification inspections. See Report of the Ad Hoc Committee, *supra* note 6, art. IV.9, art. VI.9, art. VII.5; see also ter Haar, Boter & Verweij, *Verification of Non-Production of Chemical Weapons*, in NATO'S SIXTEEN NATIONS 48 (1987).

Second, do not hastily require chemical firms to withdraw from all activities inside states that do not become party to the CW convention.²⁵⁵ Although it is within the power of the United States to require its nationals to refrain from conducting any business with, or inside, holdout states,²⁵⁶ it would be unnecessarily blunt diplomacy and disruptive economic policy to require precipitous withdrawals on short notice.²⁵⁷ Moreover, withdrawal would likely surrender whatever leverage the United States might have been able to exercise through the parent corporation's continued operations inside the holdout state.²⁵⁸

Third, do not unduly restrict multi-party international transactions in chemicals, equipment, information, and financial services. These types of business dealings will continue to be profitable and socially desirable; they should not be deterred.²⁵⁹ Although some tightening of exports is undoubtedly required,²⁶⁰ and stronger disclosure requirements in the accompanying documentation will be essential,²⁶¹ the international markets should not be disrupted more than is necessary, and upheavals in business operations should be minimized.²⁶² The reporting requirements of

255. There have been proposals to develop a public "blacklist" of states that are attempting to acquire chemical weapons, and automatically to prohibit aid, credit, or other transactions with them. See *Hearings on Global Spread*, *supra* note 3 (statement of Sen. John McCain, at 4).

256. See RESTATEMENT (THIRD) § 441 comment b.

257. See, e.g., Abbott, *Linking Trade*, *supra* note 201, at 831-37; Abbott, *Export Controls*, *supra* note 201, at 99-102.

258. On the other hand, once the CW convention has attracted sufficient international participation, it may be appropriate and politically strategic to force international chemical companies to withdraw all operations from any holdout states in order to do business inside the territory of any party state. This may be a difficult dilemma for some companies, but it can also provide an additional source of political and economic pressure on recalcitrant states to conform to the treaty regime or face economic consequences. The treaty might not require this election to be made until after substantial time had passed (to give companies the opportunity to make long-range strategic decisions) and a significant number of states had adhered to the treaty (to ensure that the weight of economic factors would drive companies to want to do business with the treaty members, rather than with the holdouts). But see 135 CONG. REC. S214 (daily ed. Jan. 25, 1988) (statement of Sen. Dole) (proposing unilateral United States sanctions against any foreign chemical corporation found to aid and abet proliferation of chemical weapons, shutting it entirely out of American market for two years).

259. See Abbott, *Export Controls*, *supra* note 201, at 92-98.

260. Webster Says Law on Chemical Arms Exports May Be Too Weak, Wash. Post, Feb. 10, 1989, at A13, col 1.

261. The inadequacy of the current paper trail regarding exports of CW-related goods and materials has been suggested by the difficulties that West German authorities have encountered in finding evidence of wrongdoing in the trade with Libya, see *Bonn Will Tighten Curb on Exports of Deadly Goods*, *supra* note 251, as well as by the difficulty in following the parade of "front" corporations that were used in the shipments to Iraq and others, see, e.g., *Behind the New Battle with Libya*, Wash. Post, Jan. 8, 1989, at C1, col. 5.

262. The imposition of sanctions in the Soviet natural gas pipeline case reportedly cost United States businesses \$800 million in lost sales. See Zaucha, *The Soviet Pipeline Sanctions: The Extraterritorial Application of U.S. Export Controls*, 15 LAW & POL'Y INT'L BUS. 1135,

the CW treaty, scrutinized by an effective and adequately staffed Technical Secretariat,²⁶³ should be made sufficient to detect and deter attempts to circumvent the treaty's obligations, so that ordinary commerce can continue, even with its bewildering complexity.²⁶⁴

Fourth, do not force companies into a situation where they must choose, without effective guidance, which sovereign's laws to violate. That is, the state of a corporation's nationality is free to prescribe rules for it, but should not order it to undertake actions that violate the laws of the host state where the actions would have to be carried out.²⁶⁵ The international system should not protect conspiracies undertaken simply to evade regulation,²⁶⁶ but the principle of reasonableness should be sustained,²⁶⁷ and the multinational companies should not be trapped between one state's rock and a competing state's hard place, at least until it becomes clear that an international consensus has arisen regarding the few holdout states as pariahs.

Fifth, it is important not to forget that the obligations of the chemical weapons treaty will be fully symmetric among its parties, and that the United States will therefore be implicated not only in the role of the capital-exporting "home" state of a multinational chemical corporation, but also as the "host" state, inside which chemical firms incorporated elsewhere will conduct some of their activities.²⁶⁸ The United States in the past has played both roles in the extraterritoriality debate, attempting to assert transborder claims broadly²⁶⁹ as well as protesting against what it

1177 (1983); see also *Cloudy Legal Picture on Export Ban*, N.Y. Times, June 26, 1982, at A31, col. 3; Griffin & Calabrese, *supra* note 159, at 15.

263. Report of the Ad Hoc Committee, *supra* note 6, art. VIII.D.

264. Affiliated companies engage in a wide variety of commercial transactions to develop, produce and market chemical products. The flow of information between parent and foreign subsidiary and between licensor and licensee — including the flow of confidential trade secrets — is an essential aspect of the competitive market. See *Glenn Hearings*, *supra* note 133 (testimony of CMA representative Max Turnipseed, at 12); see also *Hearings on Global Spread*, *supra* note 3 (statement of Frank J. Gaffney, Jr., at 10) (focusing attention on institutions providing financial services in aid of Libyan attempts to acquire CW-related materials); D. ROSENTHAL & W. KNIGHTON, *supra* note 12, at 60 (in United Kingdom alone, there are reportedly over 1,500 subsidiaries of United States corporations).

265. See RESTATEMENT (THIRD) § 441.

266. See Joelson, *supra* note 162, at 1228-29 (where a company solicited foreign action that results in conflict of mandates, that company may not subsequently rely on that foreign action as basis for seeking relief from original United States requirements).

267. See RESTATEMENT (THIRD) § 403.

268. DEFENSE INVESTIGATIVE SERVICE, DEP'T OF DEFENSE, INDUS. SEC. MANUAL FOR SAFEGUARDING CLASSIFIED INFO. 30-31, 85-87 (1984).

269. The law of extraterritoriality "has a particularly U.S. flavor." PROCEEDINGS, *supra* note 203 (remarks of Jonathan T. Fried, at 9). Other states have frequently criticized the United States extraterritorial claims as exorbitant. RESTATEMENT (THIRD) § 403 reporters' note 1; *id.* § 402 introductory note; Rosenthal, *supra* note 192, at 489, 493.

Long Arms and Chemical Arms

sees as other nations' grandiose extensions of legal competence.²⁷⁰ In both instances, the opportunities for effective international problem-solving are undercut by failure to understand that traditional notions of rigid national sovereignty do not always serve well in resolving intricate international problems.²⁷¹

Finally, it is important to remember that the *chemical* industry is far bigger than the *chemical weapons* industry;²⁷² the interest in monitoring and regulating the former is simply derivative of the interest in abolishing the latter. Arms controllers should therefore interpose themselves into the chemical industry as little as possible, not making the already oppressive verification tasks even more difficult.²⁷³

270. The United States has questioned the extraterritorial claims of the European Communities, RESTATEMENT (THIRD) § 403 reporters' note 1, and of Canada, *id.* § 414 reporter's note 2. See A. LOWE, *supra* note 12, at 63; Vagts, *supra* note 198, at 591. In an even more direct confrontation, the United States enacted anti-boycott legislation as a direct response to the attempt by Arab states to refrain from doing business with firms that also did business with Israel. The American response was seen as a mechanism to prevent United States nationals from being transformed into instruments of other nations' foreign policies. Marcuss & Richard, *supra* note 12, at 458-59; see also Marcuss, *Extraterritoriality: U.S. Antiboycott Law and the Foreign Corrupt Practices Act*, 15 LAW & POL'Y INT'L BUS. 1135 (1983).

271. *Glenn Hearings*, *supra* note 133 (statement of Paul Freedenberg, at 7); April, *Blocking Statutes as a Response to the Extra-territorial Application of Law*, in EXTRATERRITORIAL APPLICATION OF LAWS AND RESPONSES THERETO 223-33 (C. Olmstead ed. 1984).

272. The chemical industry is said to be the United States' largest international trading industry, with a total of \$238 billion in shipments in 1988. Export controls currently apply to 40 products (of a total estimated 20,000 commercially-traded chemicals and chemical products); in 1988 the United States government received approximately 1,800 individual applications to export controlled chemicals, for a total of \$68 million in sales. *Glenn Hearings*, *supra* note 133 (testimony of James LeMunyon, Deputy Assistant Secretary of Commerce for Export Administration, at 2-3); Removal of Unilateral National Security Controls; Additional Controls on Chemicals and Biological Agents and Precursors, 54 Fed. Reg. 38, 8281 (1989).

273. There is a political rationale for this caution, too: the chemical industry in the United States has to date been surprisingly supportive of the chemical weapons negotiations, assisting the government in developing rational and acceptable solutions to difficult problems. *Glenn Hearings*, *supra* note 133 (testimony of CMA representative Max Turnipseed, at 2-4). This degree of support from the affected industry is unusual in arms control, *cf.* H. YORK, MAKING WEAPONS, TALKING PEACE: A PHYSICIST'S ODYSSEY FROM HIROSHIMA TO GENEVA 285-87 (1987) (discussion of analogous case of control of nuclear weapons), and should not be squandered.

The chemical industry would make a powerful and dangerous adversary for any chemical weapons arms control efforts — as it was during the 1920s in opposition to the Geneva Protocol — and if the verification and compliance mechanisms were to become too onerous, they would pose a substantial deterrent for the United States and others to adhere to the treaty regime. Since the current United States regime of controls on exports of chemicals and related equipment also depends upon the voluntary cooperation of the chemical industry, the export regime would fall without substantial unverified self-regulation by manufacturers. See *Glenn Hearings*, *supra* note 133 (statement of William von Raab, Commissioner of the United Customs Service, at 3); *id.* (statement of CMA representative Turnipseed, at 5-9).

C. *Similarities Between Arms Control and Other Expressions of Extraterritoriality*

Before noting those aspects of chemical weapons arms control that make the problem largely *sui generis*, it is important to recall three points of similarity between this set of issues and many others that have previously arisen among the more familiar genre of extraterritoriality.

First, in a general sense, this application of national jurisdiction is largely cognate with many aspects of the more typical extraterritorial controversies. That is, issues of both jurisdiction to prescribe and jurisdiction to enforce will surface in the CW treaty, as they have in the previous cases, and it is possible once again that a country will find itself free to assert the capacity to develop rules for a particular individual, transaction, or situation, yet devoid of the competence to enforce those rules or to adjudicate cases of noncompliance.

Moreover, the chemical weapons treaty might provide a textbook illustration of the possibility of raising, in sharp relief, all six of the traditionally recognized bases of jurisdiction. A state might claim competence to govern a particular chemical facility based upon one or more of those bases: *territoriality* (if the facility operates within the state's national boundaries); *nationality* (if the facility is owned, or perhaps controlled, by natural or juridical persons with the state's nationality); *effects* (if the operation of the facility has a substantial impact on the state, such as through the purchase, sale or use of its products); *protective* (if the facility is used in a fashion that challenges the integrity of the governmental operations of the state, such as through hostile use of the products, or perhaps through interference with the state's treaty obligations); *passive personality* (if the facility produces weapons that are illegally used against nationals of the state); and *universality* (if the global norm against chemical weapons develops to the point where all production or possession of CW is outlawed). And, of course, the CW treaty will provide a novel, but not altogether unfamiliar, venue for applying and refining the evolving international law principles and mechanisms for attempting peacefully to resolve touchy conflicts of asserted national jurisdiction.

Many of the jurisdictional wrangles of earlier international controversies may well be echoed in future CW applications. The extraterritorial reach of the treaty's *prohibitions*, for example, will recall the United States' efforts in the *Fruehauf* and Pipeline incident cases to ban trade with targeted countries — how far may a state impose its own foreign policy upon recalcitrant neighbors? The treaty's required *declarations* raise issues reminiscent of those in prior discovery cases — testing the

limits upon one state's ability to mandate the production of documents and records held abroad by nationals of another state.

Similarly, the CW treaty's *inspection* provisions will again raise the most ubiquitous questions of extraterritorial enforcement: under what conditions may a host state deny effect to another state's attempted exercise of jurisdiction to enforce, and what happens to the private individual caught between opposing sovereign orders? Finally, the CW treaty's *non-circumvention* provisions, like the *Libyan Arab Bank* and *Laker* cases, will raise the choice-of-law issues of how a private entity may responsibly balance its obligations to both its home state and its host state, where inconsistent pressures exist.

Second, the CW case may be similar to its predecessors in that both (or all) sides in a controversy may have something legitimate to say. With so many potential bases of jurisdiction floating around, there may be no clear "good guys" or "bad guys," and several nations may sustain plausible, yet conflicting, interests. Without authoritative rules for resolving jurisdictional disputes, the CW treaty might degenerate into the same indeterminacy that has to date characterized other extraterritoriality contests.

The criteria of reasonableness, applied to this context, again brings both the virtues and the shortcomings that it has supplied in other situations. That is, reasonableness does provide something of a standard, a basis upon which nations should guide their actions. The previous run of cases and clashes does generally seem to have come out the right way: as a general matter, the state which had the greatest stake in the controversy, which had the closest contacts and the most profound national interests, seems usually to have prevailed. This happy outcome may not always occur — and it may only rarely occur with ease, dispatch, and dignity — but there are relatively few egregious instances of naked political power prevailing over reasonableness in the application of extraterritoriality.

On the other hand, reasonableness itself can carry the dispute resolution mechanism only so far. It is an extremely elastic standard, tending to be appreciated very differently by diverse national observers.²⁷⁴ It is unpredictable and hard to apply precedentially.²⁷⁵ And it does not provide an objective mechanism for "breaking ties," to engineer an authoritative, consistent, and mutually acceptable outcome in situations where more than one result might be plausible.

274. Thompson, *supra* note 198, at 383.

275. See Note, *supra* note 159.

Third, the CW treaty case may be similar to its predecessors in providing a range of factors to consider in evaluating the reasonableness balance. Section 403 of the *Restatement* specifies a list of criteria for assessing the reasonableness of a state's assertion of jurisdiction,²⁷⁶ and many of these may conveniently be adapted to the CW context:

1. Where is the facility located and operating? Where are the chemicals in question physically held? Where are the appropriate documents prepared and housed?

2. Who is the owner of the facility, and of what state is that person a national? Where is the owner domiciled? If there are multiple owners, what is the dominant nationality? If the owner is not also the controller of the operation, what are the nationalities and locations of the principal equity and debt holders, and of the key managers?

3. In the case of a corporate entity, where is it incorporated? Where is the *siege social*?²⁷⁷ Where do the corporation's profits originate from, and where do they go?

4. Where did the chemicals and their precursors come from? Where did the equipment and the technology originate? Where will the finished products be delivered?

5. What applications will the chemicals have? Will they be used to the advantage, or to the detriment, of any identifiable state or group? Is the chemical operation being conducted for peaceful purposes only, or is there a threat of aggression?

6. What are the general expectations of states and the evolving opinion of humankind regarding the facility and its purposes? Does the proffered jurisdiction conform to the needs and desires of the international CW control system? Would a denial of jurisdiction in a particular case thwart the object and purpose of the CW convention?

As noted in the *Restatement*, this type of list of factors cannot be exhaustive and is not systematically prioritized.²⁷⁸ It does, however, provide some guidance regarding the possibilities to be considered, the questions to be asked in a particular situation, and the considerations to be scrutinized and balanced.

276. See *supra* text accompanying notes 152-71 (summarizing RESTATEMENT (THIRD) § 403(2)).

277. Many civil law systems do not focus exclusive attention upon a corporation's place of incorporation, but look to the *siege social* or principal place of management, as well as to other possible significant contacts, to determine an entity's nationality for different purposes. RESTATEMENT (THIRD) § 213 comments c, d; see also Griffin & Calabrese, *supra* note 159, at 17.

278. RESTATEMENT (THIRD) § 403 comment b.

D. *Differences Between Arms Control and Other Expressions of Extraterritoriality*

In contrast to the preceding subsection, this part describes three factors that will collide to make the application of extraterritoriality substantially different in the arms control context from anything witnessed to date.

First, the stakes are even higher here than they have previously been. Prior international antitrust cases, of course, have debated substantial sums of money,²⁷⁹ but the transborder chemical industry is even larger. More important still are the national security interests: it may be a nation's survival, not merely its pocketbook, that is implicated.²⁸⁰

The *Fruehauf* case²⁸¹ is probably the most nearly apt precedent, for there, too, perceptions of high public policy were raised, as the United States attempted to extend the political isolation of the People's Republic of China. But a closer comparison reveals how the CW case is likely to be even more closely contested. On the American side, relations with the two Chinas during the 1960s were certainly important; today, however, the imperative of arresting the global spread of chemical weapons, especially in a context where the United States totally disarms itself of those devices, will be of far greater moment.

On the French side in the *Fruehauf* case, the host government's primary concern was simply to have the local company fulfill its lawful contract, keeping workers employed and sustaining the projected foreign currency earnings. But in the CW context, the host government may insist not merely that the local business remain solvent and operational, but that it continue to conduct commerce *with the host government itself*, and in a particularly sensitive line of work. Where there are few sophisticated competing suppliers, the host government may be particularly reluctant to tolerate foreign controls.²⁸²

279. Joelson, *supra* note 162, at 1121.

280. It is commonly suggested that the problem of chemical weapons is less important and less urgent than the problem of nuclear weapons, which pose an even greater, more immediate threat to national security and international peace. However, the emergence of a rough nuclear "parity" between the United States and the U.S.S.R. may cause a resurgence in interest in conventional and chemical arms, which have been used far more often throughout history, and which may again be used in the future to devastating effect. E. SPIERS, *supra* note 15, at 11.

281. See *supra* notes 206-10 and accompanying text; see also *supra* notes 211-15 and accompanying text (controversy over Soviet natural gas pipeline).

282. In these circumstances, the host government might consider resorting to expropriation, taking over ownership of the chemical facility (with or without adequate compensation to the dispossessed foreigners). There are obvious costs to all participants in this type of nationalization process, not the least of which might be the likely loss of expertise and technology as the former owners abandon their investment; in some circumstances, the expropriating state

The implementation of a CW treaty — and especially the execution of its expanded notions of extraterritoriality — will be strongly affected by considerations of international politics, economics and strategy. As with all other aspects of international life, a state's attitude toward the new network of legal requirements — and its willingness to adhere punctiliously to additional transnational obligations — will vary from case to case, depending upon factors such as alliance politics, regional or global opposition, and extraneous factors of bilateral relations.

State X, for example, would likely be far less willing to exercise the CW treaty's extraterritorial powers vis-a-vis an allied state Y, and much more willing to call for, and participate in, international sanctions against traditional opponent Z. Similarly, X may be cautious about initiating actions against a key neutral state, a geopolitically strategic state, or a state that might exercise a potential "swing vote" in future political confrontations well beyond the CW context. The potential will always exist for diplomatic deals (or blackmail) to "trade off" the concerns of the CW treaty against the manifold other concerns of international life.

In short, the CW treaty — just as all other obligations of international law — may be bent toward "selective enforcement," with some states being held to higher levels of performance than others, with some blocs consistently opposing each other, and with charges of non-compliance being exacerbated or toned down due to global politics. This type of gamesmanship may prove a weakness in the treaty, as it undermines the claim of universality and even-handedness. In the final analysis, however, perhaps this type of politics — an inevitable characteristic of international life, even regarding such important issues as the extraterritorial application of the CW treaty — may be acceptable, because what the treaty is truly trying to accomplish is the outlawing of chemical warfare, not the building of any particular pattern of unanimous public censure of opponents.

Second, the chemical weapons treaty will be unique in reversing one of the fundamental premises of conventional extraterritorial fare. That is, international law traditionally contains mostly *prohibitions* on the trans-border assertion of jurisdiction; it rarely, if ever, has levied *requirements* that a state assert its competence to prescribe or to enforce.²⁸³ In the

might not be competent to continue the particular chemical operations in question — or at least not to do so in secrecy.

283. M. AKEHURST, *A MODERN INTRODUCTION TO INTERNATIONAL LAW* 102 (4th ed. 1982). The most nearly apt precedent might be the international community's attempt to rally global support for economic and other sanctions against the racist regimes of Rhodesia and South Africa. See J. SWEENEY, C. OLIVER & N. LEECH, *supra* note 162, at 1347-73.

famous *Lotus* case,²⁸⁴ the Permanent Court of International Justice determined that absent any contrary prohibitions in international law, a state was free (but was not obligated) to assert jurisdiction in an ambiguous controversy.²⁸⁵ International law thus implicitly makes an “offer” of jurisdiction to a state (or to several states) in a situation, but does not ordinarily “require” that the offer be accepted and jurisdiction be asserted.²⁸⁶

In the case of the chemical weapons convention, however, that general presumption will be reversed: the international system will *want* states to press their jurisdiction aggressively, to make the treaty as effective and inclusive as possible. The objectives of the treaty are not merely to reciprocally assist its several parties in the gradual retrenchment of their arsenals, but grandly “for the sake of all mankind, to completely exclude the possibility of the use of chemical weapons”²⁸⁷ and to pursue “the complete and effective prohibition of the development, production and stockpiling of chemical weapons.”²⁸⁸ These purposes will encourage, perhaps even require, parties to expand their claims to extraterritorial jurisdiction, in aid of their collective security interests.²⁸⁹

This incitement to extraterritoriality means that states will retain precious little “wiggle room” to exercise national discretion concerning the assertion of claims. That is, once the CW treaty is implemented, whenever a state *may* lawfully exercise jurisdiction, it *must* do so. Asserting “too much” extraterritorial jurisdiction would continue to be a violation of the international law principle of reasonableness; asserting “too little” jurisdiction, however, would now be inconsistent with the strictures of the CW treaty.

284. The S.S. “*Lotus*” (France v. Turkey), 1927 P.C.I.J. (ser. A) No. 10 (Sept. 7, 1927).

285. *Id.*

286. See, e.g., *Laker Airways v. Sabena, Belgian World Airlines*, 731 F.2d 909 (D.C. Cir. 1984) and text accompanying notes 220-23. In *Laker*, the controversy was whether the United States or Great Britain was entitled to hear the merits of the allegations of unfair trade practices, and to apply its own national rules to the commercial activities that transcended state boundaries. It was, however, never argued by either side that international law would *require* either state to attempt to extend its laws or provide a forum for adjudication.

287. Report of the Ad Hoc Committee, *supra* note 6, Preamble, para. 6.

288. *Id.* Preamble, para. 8.

289. The ambitious scope of the CW treaty, and the probable widespread adherence to it, will reinforce the treaty’s role as a codification and progressive development of customary international law. In this way, the norms embodied in the treaty could be understood as declarations of customary international law, binding even on non-party states. Thus, the actions of the parties in extending their extraterritorial jurisdiction would be consistent with international law, for they would be attempts to apply new international law to the territory of another state that stubbornly refuses to implement the treaty (and its binding customary law) voluntarily. See A. D’AMATO, *THE CONCEPT OF CUSTOM*, *supra* note 171; D’Amato, *Custom and Treaty*, *supra* note 171.

These constraints will create two opposite kinds of dangers for the CW treaty regime. On the one hand, the treaty should not be constructed in a manner that places impossible burdens upon its parties: State X should not be found to be in violation of the treaty when one of its nationals owns a facility inside non-party state Y, where Y forcibly prevents the facility from complying with the reporting or inspection requirements of the treaty.²⁹⁰ The defenses of foreign state compulsion²⁹¹ or impossibility of performance²⁹² should continue to be valid, rescuing X from liability for misdeeds that are beyond its control.

On the other hand, the treaty regime must not be constructed in a fashion that provides perverse incentives for its parties to evade their obligations merely by encouraging their nationals to set up shop inside non-party states which will subsequently conveniently deny enforcement of the treaty's verification provisions.²⁹³ That is, state X should not be able to circumvent the CW convention by colluding with one of its domestic corporations and with state Y to deliberately create an "impossibility," such as by structuring a situation where a private plant could continue to operate, to the benefit of the potential CW arsenals of both X and Y, by simply sheltering inside the territory of a treaty holdout state, or by transferring all its CW-related records and materials to a "safe" jurisdiction.

The third critical difference is that the CW situation will also depart from previous international law practice by weighing somewhat differently the several factors — particularly the importance of the territorial basis of jurisdiction — that have historically gone into the "reasonableness" balance. Traditionally, the territorial consideration has been something of a "trump card" regarding both jurisdiction to prescribe and jurisdiction to enforce: it has not always been decisive, but it has generally proven by far the single most important factor to consider.²⁹⁴

290. Nevertheless, as noted, *supra* note 258 and accompanying text, when the CW treaty has attracted sufficient international adherents, it will be appropriate to increase the pressure against the remaining holdout states, such as by requiring state X to compel its nationals to withdraw from all chemical activities in non-party state Y, and also by requiring state X to prohibit any foreign chemical companies that do business with or inside Y from conducting any business with or inside state X. These measures can lead to further economic and political isolation of the holdouts, perhaps driving them to accept the limitations of the CW treaty.

291. See *supra* notes 186-88 and accompanying text.

292. See Vienna Convention on the Law of Treaties, *supra* note 246, art. 61.

293. Cf. Abbott, *Export Controls*, *supra* note 201, at 123-25 (discussing importance of anti-evasion provisions for trade sanctions).

294. Lowe, *Public International Law and the Conflict of Laws: The European Response to the United States Export Administration Regulations*, 33 INT'L & COMP. L.Q. 515, 523 (1984); RESTATEMENT (THIRD) § 402 comments b, c.

Long Arms and Chemical Arms

In the CW context, however, the weighing process may produce sharply different results. A non-territorial state may have compelling interests in a CW facility inside another country, as the chemicals may be used or threatened against its soldiers or civilians, and the scope of the potential harm may give the "victim" basis of jurisdiction an unusually high priority. Similarly, there may be an important application of the "protective" principle, for state X may have a greater stake in the actions of state Y where those actions could interfere with X's own ability to carry out fully the obligations X has assumed under the CW treaty. X may not have to sit by idly while Y's actions call into question X's own integrity and treaty compliance with respect to facilities located inside Y but owned by nationals of X. Moreover, the strong language of the rolling text's preamble²⁹⁵ and the outpouring of global support for a comprehensive CW ban suggest a stronger than usual "universality" interest, enhancing the legal competence of all states to act with respect to renegade facilities anywhere. In general, in a jurisdictional clash between a state that is a party to the CW convention, and a rival non-party state that is asserting jurisdiction based upon territoriality, international law should take cognizance of the importance of the global interest in making the CW ban as comprehensive and as effective as possible.

At the same time, of course, the world retains its profound interest in the avoidance of the use or threat of force inconsistent with the principles of the United Nations Charter.²⁹⁶ States will not be free to invade a non-party state merely for the purpose of conducting an on-site inspection of a suspect chemical facility.²⁹⁷ But the application of economic sanctions or other non-military mechanisms of enforcement²⁹⁸ should be more tolerable here than elsewhere, due to the exceptional stake held by non-territorial states.

295. See Report of the Ad Hoc Committee, *supra* note 6, Preamble.

296. U.N. CHARTER art. 2, para. 4.

297. The most similar precedent involved nuclear rather than chemical weapons, but raised many of the same concerns. In 1981 Israel launched a unilateral military attack on a nuclear reactor near Baghdad, Iraq. Israel feared that the reactor, which was about to become operational, would be used to assist in the development of a nuclear weapons capability, which Iraq could then threaten against Israel. Iraq denied that the facility would be used for those purposes. When the Israeli strike destroyed the facility, the United Nations Security Council unanimously condemned the action as a violation of Iraqi sovereignty. See J. SWEENEY, C. OLIVER & N. LEECH, *supra* note 162, at 1463-70. Israel has reportedly threatened the same type of response against an Iraqi biological weapons facility. *Israel Vows Action Against Iraqi Germ Research*, Wash. Times, Jan. 19, 1989, at A8, col. 1. Moreover, the United States has considered military action against the Libyan chemical plant at Rabta. *U.S. Officials See Insufficient Grounds to Justify Attacking Libyan Plant Now*, Wash. Post, Jan. 8, 1989, at A24, col. 1.

298. See B. CARTER, *supra* note 12; *Hearings on Proliferation*, *supra* note 3 (statement of Elisa D. Harris).

E. *What Is to Be Done?*

This section attempts to reconcile some of the competing pressures outlined above, by suggesting — first at the level of principle, then at the level of treaty drafting — how the extraterritoriality issues should be resolved in the chemical weapons convention.

1. *Principles*

The key principle is to push the CW treaty's assertions of extraterritoriality even beyond the *Restatement's* standard of reasonableness. The new CW treaty should require its parties to attempt in good faith to extend their extraterritorial jurisdiction as far as possible, promoting far-reaching efforts to prescribe and to enforce. They should be obligated to try to reach all CW-related activities that they can, by harnessing all available theories of jurisdiction, and they should be legally compelled to attempt to surmount the recalcitrance of other states which might make conflicting claims.²⁹⁹ It should not be deemed a treaty violation if a party, despite sincere and vigorous efforts to control an activity, comes up empty against the determined opposition of a holdout state that adamantly asserts its territorial prerogative. But all parties should be charged with responsibility for devising programs and strategies for inducing persons and states to conform to the needs of the international community.³⁰⁰

The use of force should not be authorized in this context; violence will not well serve the international effort to regulate the mechanisms of violence. A state or a group of states should not be authorized — at least not outside the structure of the United Nations³⁰¹ — to invade another state, or otherwise to take forceful actions inconsistent with its national sovereignty, simply to vindicate the CW treaty's requirements of jurisdiction to enforce. But notions of extraterritoriality can, and should, be pushed beyond their current limitations.³⁰²

299. As a practical matter, not all states will have the occasion to attempt to assert the CW treaty obligations extraterritorially, nor will it be equally important for all states to do so. This aspect of the treaty could probably be largely accomplished if a handful of leading chemical producing countries (United States, Japan, Great Britain, Germany, France, and a few others) became particularly vigorous in asserting jurisdiction, as these states control the bulk of the international chemical traffic. See *supra* note 142. Although some of these countries have been the most vociferous in opposing previous extraterritorial claims, perhaps they could be persuaded to adopt a different posture in this special context.

300. See Maier, *Extraterritorial Jurisdiction at a Crossroads*, *supra* note 12, at 319.

301. See U.N. CHARTER arts. 39-51.

302. Even short of military action, the international law principle of non-intervention requires states to refrain from activities that interfere with the sovereignty of another state; excessive claims of extraterritorial jurisdiction could be considered inconsistent with this duty. Note, *supra* note 159, at 1319-20.

Modern practice places a raft of non-military options at a state's disposal for bringing to bear economic and political pressures against individuals or states that run afoul of its policies. A state may curtail or terminate exports to the target; restrict imports from it; freeze its assets; interrupt its support from private or public financial institutions; and apply diverse other sanctions.³⁰³ In particular instances, some of these enforcement measures may be more effective than others, but the CW treaty ought to authorize and require its parties to make a good faith calculation about how best to bring the holdout entity into compliance.

A corollary principle should be the requirement that all parties to the forthcoming CW convention pledge extraordinary judicial and extra-judicial cooperation in the pursuit of its objectives. Parties should agree to set aside their ongoing squabbles about extraterritoriality, or at least not to let them creep into the national security arena, where they may do real damage to important global interests.

In particular, states should agree to permit much more open discovery in cases involving the CW treaty, to grant requests for extradition in connection with it, and to join efforts to uncover the truth about convoluted and covert international chemical transactions and businesses. They should reinforce each other's efforts to police compliance with the treaty, and should defer (via executive discretion or judicial reliance upon *forum non conveniens*) to the state that has the greatest immediate interest in a controversy or to the state that has the greatest current opportunity to deal effectively with the wrongdoers. By directing this degree of collaboration among its parties, the convention may be able to harmonize their policies and foreclose loopholes that evaders might otherwise exploit.³⁰⁴

The general thrust of most authoritative legal commentary these days seems to be cautionary regarding national assertions of extraterritorial jurisdiction.³⁰⁵ Undoubtedly, unwise expansive use of the power to prescribe or to enforce can create severe international tensions, especially

303. See B. CARTER, *supra* note 12.

304. Some states might be wary of enhancing the extraterritorial reach of the CW convention, out of fear that it might set a precedent for permissive assertions of jurisdiction that could be applied to many other contexts. Any general discussion of the desirability of extensive extraterritoriality as a progressive development for international law is beyond the scope of this article; however, it is clear that the experience of the future CW treaty need not become a blueprint for other areas of international affairs. National security matters are different from most other areas of international commerce, and chemical weaponry is different from other areas of national security, so any models adopted in this context may not be applicable to other circumstances. On the other hand, the pattern of cooperation envisaged here as a solution to conflicts of jurisdiction may well be a useful model for more harmonious international balancing of interests in other sectors.

305. See D. LANGE & G. BORN, *supra* note 12, at 44; D. ROSENTHAL & W. KNIGHTON, *supra* note 12, at viii-ix; Maier, Book Review, *supra* note 192; see also Wallace, *supra* note 146, at 1107.

when a single state seeks to act alone, without effective consultation or collaboration with others.³⁰⁶ But what is recommended here is significantly different from the unilateral extraterritoriality that has been practiced in the past: the CW treaty will provide the opportunity for collective international action in pursuit of shared community objectives.³⁰⁷ It will therefore be more closely akin to the joint actions of the United Nations Security Council,³⁰⁸ rather than to singlehanded American sanctions as in the *Fruehauf* or Pipeline incident cases. Marshalling the global interest in an effective CW ban, the implementers of the treaty will have a far stronger basis for supporting and requiring aggressive extraterritoriality.³⁰⁹

2. Practices

At the level of practice, three specific suggestions to the treaty's negotiators are in order. First, the treaty text should include a single general section regarding the geographic extent of the treaty, replacing the thirty or more current references to various formulations of scope.³¹⁰ That passage should require that:

each party to this convention undertakes to apply all its provisions to all persons, places, equipment, substances, events, documents, and transactions

306. When a single state asserts extraterritorial jurisdiction, such as through the United States trade sanctions in the *Pipeline* case, it risks aggravating its erstwhile allies who may have taken a different political position, and it also jeopardizes the international commerce of its nationals. See Tassey, *Export Controls Can Hurt National Security*, J. COM., Oct. 11, 1984, at 4A, col. 2; see also Note, *supra* note 159, at 1335; Moyer & Mabry, *supra* note 14, at 142-61.

307. It is generally concluded that the CW convention will not enter into force until it has been ratified by 60 states. *Chemical Weapons Talks Facing Tough Hurdles*, N.Y. Times, Jan. 19, 1989, at A10, col. 3. Therefore, while some states will certainly remain outside the treaty regime, it will start with a high level of international consensus.

The United States has adopted the position that entry into force should require the adherence of "all CW-capable states." This phrase has not been defined, and the negotiators have not yet agreed how to handle the problem of "holdout" states. ARMS CONTROL REP., Oct. 1989, at 704.B.384.38; *Neutralizing Poison Gas*, N.Y. Times, Sept. 26, 1989, at A1; Feinstein, *Bush U.N. Speech on Chemicals Draws Mixed Reactions*, 19 ARMS CONTROL TODAY NO. 8, Oct. 1989, at 28-29.

308. See, e.g., J. SWEENEY, C. OLIVER & N. LEECH, *supra* note 162, at 1347-73 (analyzing United Nations collective security measures against Rhodesia and South Africa).

309. Unilateral assertions of extraterritorial jurisdiction, such as trade embargoes used in the *Fruehauf*, Pipeline incident, and *Libyan Arab Bank* cases, have been criticized as unduly costly (in terms of economic losses, as well as political strain among allies) and as relatively ineffective in achieving foreign policy objectives. See D. LANGE & G. BORN, *supra* note 12, at 33-34. The collective actions envisioned here, however, would be premised upon widespread commitment to joint action by numerous states. Compare with UNITED STATES DEP'T OF STATE, SPECIAL REPORT NO. 149, ECONOMIC SANCTIONS TO COMBAT INTERNATIONAL TERRORISM (1986) (describing unilateral and cooperative efforts to deal with threat of terrorism).

310. See *supra* note 229 (listing various categories of scope).

Long Arms and Chemical Arms

that international law places within its national jurisdiction, wherever located.³¹¹

In explication of this text, the negotiating history³¹² should highlight the parties' shared understanding that states are supposed to push their jurisdiction — using all six of the acknowledged bases — as far as the evolving norms of international law will permit. They are obligated to undertake good faith "best efforts" to extend their reach to the maximum, so that as many CW-related concerns as possible will be brought within the treaty's ambit. It is not a violation of the treaty for a state to fail in the attempt to enforce a rule it has prescribed, as long as it is making the maximum effort possible to stretch the law of extraterritoriality.³¹³

In cases of overlapping plausible claims to jurisdiction, therefore, the state that is a party to the treaty should place its commitment to the CW ban ahead of any comity interest toward the holdout state, and should, where possible, attempt to enforce the treaty provisions even if the other state complains, with some legitimacy, that its prerogatives are being trampled.³¹⁴

Second, in cases where jurisdiction might be asserted by two or more states that are both parties to the treaty, the applicable rule ought to be that:

both parties are obligated to cooperate in the assertion of jurisdiction, so that the object and purpose of the treaty will be fulfilled.

311. The general language of United States extraterritoriality assertions in the Pipeline incident case, where sanctions were to be applied to all persons "subject to the jurisdiction of the United States," 50 U.S.C. app. § 2405 (a)(1) (Supp. V 1981), contains "a phrase that itself invites reference to international law principles." Marcus, *Soviet Pipeline Sanctions: The President's Authority to Impose Extraterritorial Controls*, 15 LAW & POL'Y INT'L. BUS. 1163, 1163-64 (1983); see also *United States v. James-Robinson*, 515 F. Supp. 1340 (S.D. Fla. 1981) (Congress intended Marijuana on the High Seas Act to authorize maximum prosecutorial authority permitted under international law).

312. See Vienna Convention on the Law of Treaties, *supra* note 246, arts. 31 and 32, regarding the role of the negotiating history in interpreting a treaty.

313. Cf. *State of Ohio v. Arthur Anderson & Co.*, 570 F.2d 1370 (10th Cir.), *cert. denied*, 439 U.S. 833 (1978) (as litigant's failure to produce subpoenaed documents based on bad faith assertion of possible conflict with Swiss banking laws, sanctions were appropriate); see also *In re Westinghouse Electric Corp. Uranium Contracts Litigation*, 563 F.2d 992 (10th Cir. 1977) (sanctions not appropriate where corporation had made diligent effort to produce documents physically held inside Canada, where Canadian government asserted strong interest in restricting access); *SEC v. Banca Della Svizzera Italiana*, 92 F.R.D. 111 (S.D.N.Y. 1981) (foreign corporation could be compelled to produce documents, even in violation of Swiss law, where corporation had acted in bad faith by making deliberate use of Swiss law to evade U.S. strictures against insider trading).

314. Exactly how far a state may and must attempt to push its jurisdiction in a particular situation should be determined on a case-by-case basis. Compare the *Freuhauf*, Pipeline incident and *Libyan Arab Bank* cases (where U.S. ultimately retreated) with the *Laker* case (where U.S. did not retreat).

This provision would be intended to clarify that where two states *may* assert jurisdiction, both of them *must* do so, and they should collaborate to promote the achievement of the treaty's purposes.³¹⁵ Again, the negotiating history should be the device for acknowledging that the territorial state (the state within whose borders the enforcement actions would be carried out) should ordinarily take the lead responsibility in applying the terms of the convention. But both states will have obligations, and a failure to comply with the treaty could be chargeable as a violation to both of them, so they should share the right to take appropriate actions. Similarly, where a state party possesses or controls records or other documents that may be necessary in unraveling the paper trail of a suspicious international chemical transaction, it should be willing to surrender them, acknowledging that the common interest in sustaining the CW treaty outweighs the individual state's interest in preserving the secrecy of private papers.

Finally, the treaty should specify that disputes or controversies regarding the assertion of the treaty's jurisdiction should be referred to a specific, standing adjudicative mechanism, where prompt and authoritative answers can be developed.³¹⁶ This court or arbitrator could determine, with conclusions binding upon all parties, whether a particular assertion of jurisdiction was authorized by international law; whether a state had acted in good faith in pressing its jurisdiction; and which of several plausible assertions of extraterritorial jurisdiction ought to be honored.³¹⁷

Perhaps some panel associated with the United Nations or with the International Court of Justice could be established for this purpose. More likely, the CW convention could create its own dedicated tribunal, empowered to issue advisory opinions as well as to hear contentious cases, and to issue opinions and orders swiftly.³¹⁸ Even nonparty states could be permitted to appear before the panel, to make arguments about

315. See Dam, *supra* note 146, at 50 (most effective way for states to resolve potential conflicts of jurisdiction is to attempt to harmonize underlying substantive policies). Compare with recent agreements concerning aircraft hijacking, where the parties have agreed that the state which first arrests the accused must either prosecute him for the criminal violation or extradite him to a requesting state for that purpose (the principle of "aut dedere aut judicare"). The arresting state is not authorized simply to release the defendant. See RESTATEMENT (THIRD) § 475 reporters' note 5; Schuetz, *supra* note 167, at 521.

316. CD has only begun to address the question of a dispute resolution mechanism, and no decisions have been made regarding establishment of a court or arbitral tribunal.

317. See Sohn, *The Role of Arbitration in Recent Multilateral Treaties*, 23 VA. J. INT'L L. 171 (1983) (surveying various adjudication and arbitration provisions in modern international practice).

318. Compare with Trimble, *Beyond Verification: The Next Step in Arms Control*, 102 HARV. L. REV. 885 (1989) (advocating creation of new "Institute" to resolve compliance questions arising under arms control accords).

extraterritoriality; even if they could not be legally bound by the judges' decisions, they might be more willing to tolerate the outcome if they had been afforded the opportunity to be heard.

This type of CW treaty tribunal could be patterned after those created for other new international arrangements, such as that called for by the Law of the Sea Convention.³¹⁹ It would supplement the International Court of Justice and the other regional or specialized tribunals, and perhaps rise to a higher level of international acceptance and usefulness.³²⁰ Most importantly, the international tribunal could be used to ensure that disputes regarding the interpretation and implementation of the CW treaty, and of its extraterritoriality provisions in particular, were addressed on the plane of state-to-state confrontation, with the private parties appropriately relegated to secondary roles. The underlying problem, after all, is one between the sovereigns, and the private corporations should not be required, or permitted, to carry the bulk of the burden.

Issues concerning the extraterritorial aspects of CW treaty could also be expected to arise within the domestic jurisprudence of its parties. American courts, for example, might be drawn into controversies in which the obligations of private parties could depend in part upon appropriately construing the international agreement.³²¹ In many instances, considerations of "sovereign immunity"³²² and "act of state"³²³ will prevent effective adjudication of the disputes, but where the chemical weapons treaty is dispositive,³²⁴ it is fully part of the law of the land, and is entitled to enforcement under the Constitution's Supremacy Clause.³²⁵ Still, the principal action regarding the CW agreement would concern relations among sovereign states, and it is there that the treaty's dispute-resolution mechanisms should concentrate.

319. See U.N. CONVENTION ON THE LAW OF THE SEA, art. 287, U.N. Doc. A/Conf.62/BUR, U.N. Sales No. E.83.v.5 (1983).

320. See J. SWEENEY, C. OLIVER, & N. LEECH, *supra* note 162, at 61-70 (ICJ has not succeeded in attracting great international support as a functional and dispositive dispute-resolution center; some other international courts, such as regional courts for human rights, have been somewhat more productive).

321. In this respect, the CW treaty could spawn litigation similar to that described above regarding private responsibilities in international antitrust cases, international discovery, or criminal law.

322. See RESTATEMENT (THIRD) pt. IV, ch. 5 (describing limitations upon domestic courts asserting jurisdiction over foreign state).

323. See RESTATEMENT (THIRD) pt. IV, ch. 4, subch. B (describing limitations upon United States courts' power to assess legality of actions undertaken by foreign state within its own territory).

324. See generally J. SWEENEY, C. OLIVER, & N. LEECH, *supra* note 162, at 1108-17 (discussing "self-executing" treaties, which are entitled to immediate enforcement as United States law, without necessity of intermediate domestic law-making).

325. U.S. CONST. art. VI; see also J. SWEENEY, C. OLIVER, & N. LEECH, *supra* note 162, at 1055-75 (describing operation of treaties as domestic law).

Overall, the concept of "going beyond reasonableness" would require each state to push its jurisdiction as far as the international system will tolerate. This means that where the holdout state actively resists, the attempted extraterritorial jurisdiction to enforce may not get far. But where the holdout state is less vigilant in defending itself, the CW convention should require its parties to press on, thrusting jurisdiction even in situations where current international law would not sustain the intervention.³²⁶

There are already some instances in which international law permits a non-territorial state to assert itself, provided no other state objects, even when — should a conflict arise — the extraterritoriality would not be deemed "reasonable."³²⁷ That is, to some extent, international law already lets states attempt to assert "unreasonable" extraterritoriality, and they sometimes "get away with it," where the territorial state does not effectively resist.³²⁸

One illustration is in the area of taxation. Ordinarily, the international system does not contemplate that a state will fully tax the worldwide income of its nationals; the general expectation is that "double taxation" is to be avoided by allowing a credit or exemption for any taxes paid to another state based upon income earned in that second state.³²⁹ If a dispute on this subject arose, an international tribunal might rule against the state of nationality, finding that the assertion of an extraterritorial

326. A country attempting to assert extraterritorial jurisdiction in aid of the CW convention will be able to exert different forms of leverage in contests with different neighbors; the measure of requisite good faith efforts will therefore be hard to predict. See April, *supra* note 271, at 230 ("aggressor" state in extraterritoriality contest has certain advantages, allowing its policies to be felt discreetly).

327. There are even situations in which the territorial state actively desires the non-territorial state to exercise at least some attributes of jurisdiction, such as authority to conduct trials for claims of damages inflicted by a multinational corporation. See *In re Union Carbide Corp. Gas Plant Disaster*, 634 F. Supp. 842 (S.D.N.Y. 1986), *aff'd*, 809 F.2d 195 (2d Cir. 1986) (Indian government filed suit in U.S. on behalf of citizens injured in Bhopal explosion); Note, *The Bhopal Incident: How the Courts Have Faced Complex International Litigation*, 5 B.U. INT'L L.J. 445 (1987).

328. Even in the Pipeline incident, there is a sense in which the U.S. "got away with" its assertion of extraterritorial jurisdiction. Although the U.S. did not prevail in its attempt to force cancellation of the Europeans' contracts, it did succeed in disrupting performance, perhaps delaying the pipeline project somewhat, and making the political point about the dangers of collaboration with the U.S.S.R. Kincannon, *supra* note 158, at 227; Dam, *supra* note 146, at 50. But see Jennings, *supra* note 152, at 174 (it is wrong to assume that international law will always permit assertion of extraterritorial jurisdiction up to point where there is actual or possible clash with foreign sovereign); Moyer & Mabry, *supra* note 14, at 91 ("[I]t is not too harsh to characterize the pipeline controls as perhaps the least effective and most costly controls in U.S. history.").

329. RESTATEMENT (THIRD) § 413; D. LANGE & G. BORN, *supra* note 12, at 29-31.

Long Arms and Chemical Arms

taxing authority was unreasonable under the circumstances.³³⁰ On the other hand, if the territorial state did not protest, the taxing state could probably “get away with it” and the international system would not itself intervene (or permit the double-taxed individual to bring a claim) to eliminate the “unreasonable” tax bite. Double taxation, therefore, even if generally unreasonable, does not seem to be automatically prohibited: if no state complains, the taxing authority can go beyond reasonableness until it encounters determined resistance.³³¹

Similarly, the area of “official kidnapping” reveals the international law system’s willingness to tolerate “unreasonable” behavior if the victim state does not protest. Ordinarily, a state is not permitted to send its law enforcement officials into the territory of a second state to apprehend a person and forcibly bring him or her back into the first state for trial — such activity is usually a clearly improper assertion of extraterritorial jurisdiction to enforce.³³² But if the territorial state does not care, or otherwise fails to object, the trial may proceed, and the victim of the kidnapping himself or herself ordinarily has no standing to object to the propriety of the actions that resulted in presence before the court.³³³

In the same vein, the CW treaty ought to require its parties to press all their potential bases of jurisdiction to the point of resistance by other affected states, even if this practice means stepping beyond the limitations on extraterritoriality that the international system has so far deemed to be “reasonable.” The asserting state may have to back down, if the territorial state stands on its rights, but there is no harm — and there could be considerable virtue — in trying to press further.

V. Conclusion

This study has broached only a single narrow issue concerning the realm of chemical weapons, but even its restrictive scope provides a basis

330. Many states deny that there is any inherent international obligation to avoid double taxation, and a network of treaties has developed to protect taxpayers who might otherwise be penalized by overlapping levies. RESTATEMENT (THIRD) § 413 comment a.

331. See *Container Corp. v. Franchise Tax Bd.*, 463 U.S. 159 (1983) (upholding California “unitary tax” against challenge that it unfairly subjected to local taxation all world-wide activities of multinational corporation).

332. RESTATEMENT (THIRD) § 432; D. LANGE & G. BORN, *supra* note 12, at 134-35. The most famous illustration of this principle involved Israel’s abduction of Nazi war criminal Adolph Eichmann from Argentina in 1960. RESTATEMENT (THIRD) § 432 reporters’ note 3. More recently, Israel’s abduction of Sheik Abdul Karim Obeid from Lebanon has raised similar issues. *Israel Adamant on Terms to Free Abducted Sheik*, N.Y. Times, Aug. 2, 1989, at A10, col. 1.

333. RESTATEMENT (THIRD) § 432 reporters’ notes 2, 3; *United States v. Davis*, 767 F.2d 1025, 1030 (2d Cir. 1985) (only state from which defendant was taken could assert claim that kidnapping was improper; international law gives no corresponding right to person seized).

for launching three more generalized comments regarding the future prospects for arms control.

First, the emerging chemical weapons convention will be radically different from its lineal ancestors, but it may at the same time be a harbinger of the future shape and direction of arms control generally. That is, the earlier CW-related international agreements — principally the Geneva Protocol and the Biological Weapons Convention — now seem like relics of a far simpler era. Even the sheer length of the documents tells a tale: Geneva Protocol was barely one page long; the BW Convention ran to four pages; the current rolling text of the CW convention now contains 107 pages, with far more to come.³³⁴

The next generation of arms control will be drastically different in other respects, too. The verification scheme, for example, virtually nonexistent in the earlier accords,³³⁵ will henceforth occupy a central place in the negotiations and in the text. The disclosure and inspection system will increasingly implicate the interests of private corporations and individuals, not solely governments, and the legal and practical impediments will accordingly multiply.³³⁶

In addition, arms control will become increasingly expensive, calling into question one of the original purposes of the effort, i.e., to reduce the financial burdens of conducting, deterring and preparing for war.³³⁷ Even in the nuclear field, arms control might not directly translate into financial savings,³³⁸ and the next CW treaty will be the first accord in which the costs associated with the dismantling and verification mechanisms will actually surpass the savings obtained from no longer producing, storing, or deploying the weapons.³³⁹

334. Geneva Protocol, *supra* note 56; Biological Weapons Convention, *supra* note 66. *See Spy in the Ointment*, *supra* note 141 (using different printing format, Biological Weapons Convention is three pages long and rolling text of CW convention will eventually exceed 600 pages).

335. The Geneva Protocol contained no provisions whatsoever regarding verification, and the mechanism established for the Biological Weapons Convention has not proven adequate for the task. *See supra* note 66.

336. *See Connolly, supra* note 137.

337. *See R. SIVARD, supra* note 125, at 6-7 (identifying tradeoffs each nation makes between socio-economic priorities and military budgets).

338. *See Jones, The Costs of Disarmament Treaties: A Research Note*, 9 ARMS CONTROL 280 (1988) (studying savings and expenses associated with INF Treaty).

339. *See Lohs, Destruction or Conversion of Chemical Warfare Agents: Possibilities and Alternatives*, reprinted in SIPRI, CHEMICAL WEAPONS, *supra* note 39, at 67, 68-75 (elimination of CW stocks and facilities in verifiable and environmentally sound manner will be lengthy and expensive undertaking); J. BOULDEN, *supra* note 10, at 6 (costs of CW convention are difficult to estimate, but are likely to be substantial); Morrison, *Trusting, But Verifying*, *supra* note 96 (surveying bureaucratic and security problems of detailed on-site inspection for arms control).

Finally, the CW convention may also depart from precedent, and also predict the future, in its comprehensive approach to the arms under negotiation. That is, earlier treaties were mostly partial, incomplete measures, dealing with a fragment of the overall problem; the CW convention, on the other hand, provides a complete legal system that seeks to eradicate totally the chemical weapons inventories of the entire world.³⁴⁰ It is, of course, too early to tell whether the more ambitious approach can succeed, but the change at least carries the suggestion that arms control has developed to the stage where most of the “easy” problems have already been dealt with, and only the more intractable issues remain. These outstanding problems are so intricate and so important that any “halfway” measures may be unstable; only the most painstaking and deliberate negotiation of all-inclusive agreements may offer suitable scope for mutually-acceptable tradeoffs and balances.³⁴¹ In any event, the CW treaty, like the BW Convention and the INF Treaty, will attempt to close off an entire category of arms competition: real “disarmament,” instead of mere “arms control.”³⁴²

Second, the CW convention will provide the occasion for a renewed national debate concerning the place of verification in arms control. Obviously, the system used to ensure reciprocal compliance with treaty obligations must be a central concern, and much ink has rightly been spilled in the arguments concerning the standards and mechanisms of verifica-

340. *But see* R. Cohen & R. Ranger, *Enforcing CW Limits: An International Chemical Weapons Authority* 9 (January 1989) (unpublished working paper) (“Proposals such as that for the complete ban on CW, though well-intentioned, may thus be unduly utopian. It is unrealistic to try to abolish a weapons system that is as easy to produce as it is to conceal, especially when many of the Third World producers or potential producers are unlikely to agree to abolition anyway.”).

341. Some have argued the contrary proposition, that a comprehensive CW agreement inevitably takes so long to negotiate that it provides no adequate solution to the urgent current problems; drawn out deliberations may produce a more elegant, enduring result, but they are no way to fight a raging fire. Robinson, *Information Processes*, *supra* note 25, at 4.

342. In a larger sense, of course, all these arms control measures are only partial or incomplete. As long as states maintain substantial stocks of nuclear and conventional weaponry — now exacerbated by the proliferation of longer-range ballistic and cruise missiles — the overall problem of global security is far from solved. Several arms control treaties have explicitly adopted the goal of “general and complete disarmament” as the long-term objective. SALT II Treaty, *supra* note 87, Preamble; Biological Weapons Convention, *supra* note 66, at Preamble; Treaty on the Non-Proliferation of Nuclear Weapons, July 1, 1968, 21 U.S.T. 483, T.I.A.S. 6839, 729 U.N.T.S. 161, *reprinted in* 7 I.L.M. 811 (1968) [hereinafter *Non-Proliferation Treaty*], at Preamble; *see also* ASPEN STRATEGY GROUP AND EUROPEAN STRATEGY GROUP, *supra* note 117, at 8, 42-44 (noting future developments that chemical weapons engineers might pursue if left unrestricted, and comparing advantages of partial and complete chemical arms control).

tion.³⁴³ But the CW convention will introduce a new element into the controversies: the chemical agents and the facilities that could produce them are so numerous, inconspicuous, and adaptable that critics may well be correct when they assert that the next CW treaty cannot possibly be monitored with the same high confidence that earlier arms control accords enjoyed.³⁴⁴

This concern, however, should not mean that arms control has reached a dead end; we must, instead, reconsider the role of such high-confidence verification, making it one important factor in the evaluation of an arms control agreement, not an automatic *sine qua non*.³⁴⁵ In the current political milieu, it is heresy to suggest that some uncertainty in compliance is tolerable, but in the future, a more complex, sophisticated calculation of national interests will be required. No treaty will be able to put the CW genie fully back into the bottle; we cannot "un-invent" the technology and we cannot dismantle all the equipment that could be jury-rigged into producing lethal gas. Some level of "risk" will have to be taken — but it is essential to realize that there may be even greater risks in eschewing arms control.³⁴⁶ The status quo also contains abun-

343. See, e.g., W. ROWELL, ARMS CONTROL VERIFICATION: A GUIDE TO POLICY ISSUES FOR THE 1980s (1986); VERIFICATION AND ARMS CONTROL (W. Potter ed. 1985); Meyer, *supra* note 116.

344. See *Hearings on Global Spread*, *supra* note 3 (statement of Frank J. Gaffney, Jr., at 6) ("As a practical matter, there is no such thing as a verifiable ban on chemical weapons."). On the other hand, any party contemplating violating a CW treaty would have to be wary of the chance of timely detection: even if the verification system were imperfect, there would still be a substantial chance that illegal activities would be observed, through one device or another. CMA's Olson *Unravels Intricacies*, CHEMICAL & ENGINEERING NEWS (1989), *supra* note 127, at 7; see also Robinson, *Information Processes*, *supra* note 25, at 5; Robinson, *Verifying a Ban on Chemical-Warfare Weapons*, FARADAY DISCUSSION PAPER No. 12, at 2 (1988) (noting that choice may be between risky treaty and risky status quo).

345. See BUREAU OF PUBLIC AFFAIRS, U.S. DEP'T OF STATE, CURRENT POLICY NO. 435, PRESIDENT REAGAN, PATHS TOWARD PEACE: DETERRENCE AND ARMS CONTROL 5 (Nov. 22, 1982) (Soviet use of CW in Afghanistan and elsewhere "makes ironclad verification all the more essential for arms control."). But see BUREAU OF PUBLIC AFFAIRS, U.S. DEP'T. OF STATE, CURRENT POLICY NO. 1121, SECRETARY SCHULTZ, THE ADMINISTRATION'S ARMS CONTROL LEGACY 4 (Oct. 31, 1988) (United States must think realistically about verification, realize that no arms control agreement will be perfectly verifiable, and ask whether particular trade-offs of specific agreement are justified).

346. In the current political debates, opponents of arms control have been able to argue both a) that detailed, intrusive inspection of Soviet and other facilities is essential, to ensure that other states are not cheating on their obligations and creating a military disadvantage for the United States, and b) that such invasive inspections could not be conducted by other states inside American facilities, because such oversight would compromise national security secrets that can be protected only by completely excluding foreign observers. This two-headed logic would totally preclude arms control as a device for promoting national security and international peace, but it has carried considerable political clout. See Cohen & Ranger, *supra* note 340, at 9 (citing statement of senior member of Reagan Administration who could not conceive of verification regime which would both provide adequate guarantees of Soviet compliance and be workable under American law if applied within the United States).

dant national risks: that chemical warfare will break out in any sector of the globe, that CW capability will spread to terrorist organizations, and that the superpowers will inexorably become involved. It may be that only an imperfect CW treaty could be implemented at this time, and that limitations on the verification structure will be conceptually different from those of earlier arms control,³⁴⁷ but this should not mean that international anomie is the only alternative.³⁴⁸

The verification calculation is especially difficult in a multilateral context. The dangers of Soviet non-compliance are appreciably different from the dangers of cheating on the part of any other state, and the inspection apparatus ought to be able to adapt flexibly to the diverse needs without creating the specter of superpower hegemony and impolitic discrimination between the CW "haves" and "have nots."³⁴⁹ The fact is that the Soviet Union and the United States, as military giants, currently possess CW arsenals that no other states can rival; they also, as highly industrialized economies, support such vast and complex commercial infrastructures that chemical stocks and flows are paralyzingly difficult to monitor. A verification system that adequately supervises the CW-related materials and facilities of a typical nation, therefore, may be entirely inadequate to build confidence in Soviet compliance. The objective for the United States, therefore, should be to attempt to create a verification apparatus that is simultaneously vigorous enough to detect Soviet compliance-related activities in a timely fashion and benign enough to be acceptable to the bulk of states in the world.

Third, the negotiation of a new CW treaty provides the occasion to reflect more deeply upon the relationship between international law and arms control. Law has always been an important component of the ne-

347. No treaty, of course, is ever 100% verifiable; there is always some scope for conjecture about evasion scenarios. More sophisticated analysis breaks a treaty down into discrete elements, asking for each provision how confident we are that violations could be detected in sufficient time to allow an effective military response. See Jones, *Eliminating Chemical Weapons: Less than Meets the Eye*, WASH. Q., Spring 1989, at 89.

348. Compare with Glenn Hearings, *supra* note 133 (opening statement of Sen. John Glenn, at 1-2) (even if United States export controls alone cannot solve all problems associated with international proliferation of CW capability, they are nonetheless important part of overall solution, and the United States should do everything it can to ameliorate difficulties) and Dunn, *supra* note 96 (arguing that despite difficulties, CW arms control ought to be a top United States objective). But see Discriminate Deterrence, Report of the Commission on Integrated Long-Term Strategy (Jan. 1988) (arguing that "[f]or the foreseeable future, it will not be realistic to pursue agreements to eliminate all nuclear weapons, or all chemical weapons . . . [a] ban on chemical weapons could not be verified").

349. See H. YORK, MAKING WEAPONS, TALKING PEACE, *supra* note 273, at 301 (describing how negotiators of comprehensive nuclear test ban treaty attempted to develop two-tiered verification structure, with more detailed and intrusive inspection rights operative as between United States, Soviet Union and United Kingdom, and less elaborate regime applicable as between all other parties).

gotiation and implementation process, but it has rarely been central. Considerations of military doctrine and foreign relations strategy have always predominated, and international law, frankly, has not been developed well enough to help fill in the important gaps.³⁵⁰

But there is law — including traditional “black letter” law — that affects the arms control process. Article IX of the Biological Weapons Convention contains a binding legal obligation upon all its parties to continue negotiations in good faith on an early agreement for effective prohibition of CW.³⁵¹ Although no timetable is specified, the commitment to “good faith negotiations” is not an empty one,³⁵² and international law should be mustered to help identify its parameters.³⁵³

This article has identified another area, extraterritoriality, where aggressive development of the law may assist in dealing with future problems of arms control.³⁵⁴ The transnational commerce in chemicals poses unique complications for CW arms control and for international peace and security, and the mechanisms of international law should, at the least, not make those problems any harder. For the best outcome,

350. See Boyle, *The Legal Distortions Behind the Reagan Administration's Chemical and Biological Warfare Buildup*, 30 ST. LOUIS U.L.J. 1175 (1986) (arguing that Reagan administration's charges of Soviet CW violations were not made in good faith, but were part of effort to gain public support for an American buildup of chemical arms); Falk, *Inhibiting Reliance on Biological Weaponry: The Role and Relevance of International Law*, 1 AM. U.J. INT'L L. & POL'Y 17-34 (1986) (considering relevance of international agreements in national decisions regarding biological weapons).

351. Biological Weapons Convention, *supra* note 66, art. IX.

352. In the field of labor law, for example, the National Labor Relations Act requires employers and labor organizations to bargain collectively in good faith, and it provides some partial statutory definition of the scope of that obligation. 29 U.S.C. § 158(d) (1973 & Supp. 1989). The notion of “good faith” remains somewhat ambiguous in that context, too, but courts and commentators have been able to supply meaningful interpretation. See, e.g., *NLRB v. Insurance Agents' Int'l Union*, 361 U.S. 477 (1960); *White v. NLRB*, 255 F.2d 564 (5th Cir. 1958); A. COX, D. BOK & R. GORMAN, CASES AND MATERIALS ON LABOR LAW 389-401 (10th ed. 1986); Cox, *The Duty to Bargain in Good Faith*, 71 HARV. L. REV. 1401 (1958).

353. The Nuclear Non-Proliferation Treaty, *supra* note 342, contains similar language, obligating its parties more broadly “to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.” *Id.* art. VI.

The continuing superpower arms race has sparked allegations that the states possessing nuclear arms have not engaged in serious negotiations, in a truly “good faith” attempt to restrict their respective arsenals. This concern has caused some to question the record of compliance with article VI of the Non-Proliferation Treaty, and has led to apprehensions that the entire treaty regime — the best existing legal bulwark against the further spread of nuclear weapons capability — may unravel. See Vraalsen, *Non-Proliferation of Nuclear, Chemical and Other Weapons*, in DISARMAMENT: U.N. CONFERENCE ON DISARMAMENT ISSUES 46, 47 (1989) (suggesting that dichotomy between “haves” and “have-nots” may undermine legitimacy of Non-Proliferation Treaty).

354. But see D. ROSENTHAL & W. KNIGHTON, *supra* note 12, at ix (arguing that problems of extraterritoriality are essentially political and economic, not legal, in nature and are “too important to be left to lawyers”).

Long Arms and Chemical Arms

the effect of the jurisprudence should be mustered to help create a viable legal barrier, joining the longstanding moral barrier, against the existence of chemical weapons.